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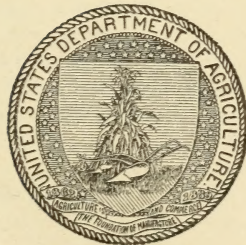
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CLASSIFICATION OF THE CRYPHALINÆ,
WITH DESCRIPTIONS OF NEW
GENERA AND SPECIES.

BY

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CLASSIFICATION OF THE CRYPHALINÆ, WITH DESCRIPTIONS OF NEW GENERA AND SPECIES.¹

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INTRODUCTION.

The superfamily Scolytoidea is represented in North and South America, Europe, and Asia by some of the most destructive insect enemies of forest trees and their commercial products; also, by a very destructive enemy of clover, and by several species which injure or destroy fruit trees.

This is the fourth contribution toward a monograph of the scolytoid beetles. It was prepared for publication as Part IV of Technical Series, No. 17, of the Bureau of Entomology, but owing to the discontinuance of that series in the new plan of departmental publications, it has been placed in the series of Reports of the Office of the Secretary. Technical Series, No. 17, Parts I and II, of the Bureau of Entomology, comprise the first and third contributions; the first of these, Part I, is entitled "The Genus *Dendroctonus*;" the third, Part II, is entitled "Preliminary Classification of the Superfamily Scolytoidea." The second contribution, entitled "List of Generic Names and Their Type-Species in the Coleopterous Superfamily Scolytoidea," is published in the Proceedings of the United States National Museum, volume 48, No. 2066, pages 115-136.

The subfamily Cryphalinæ of the family Ipidæ includes a group of ambrosia beetles, also known as pinhole borers and timber beetles, which are exceedingly detrimental to crude forest products, wine and beer casks, and other similar products; a species destructive to the tea plant in Ceylon, and many seed-infesting insects, especially those of the date palm.

The fact that so many undescribed species and genera in the subfamily have been found in the course of the field and laboratory investigations carried on by the writer during the past 20 years and the fact that many of them are of special economic importance make it necessary that they be named, described, and classified as a basis for a detailed study of their habits and seasonal histories and of the methods for combating them.

¹ Contribution toward a monograph of the scolytoid beetles.

NOTE.—This is a technical report of interest to entomologists generally.

The classification of the subfamily Cryphalinæ, as here defined, is based almost entirely on a first-hand study of the material represented in the collections of the United States National Museum and the Le Conte collection in the Museum of Comparative Zoology.

The genera and species included in the classification which have not been seen by the writer are indicated by angles (<) and are provisionally placed on evidence found in the descriptions. The names not in angles and not followed by reference to a page are of described species represented in the collections. The names with page references are new, except when followed by the author's name. The collection also includes considerable new material from the insect collection of the Biological Laboratory, Bureau of Sciences, Manila, Philippine Islands, collected by Mr. J. L. Webb, under the general instructions of the writer.¹

The descriptions of new genera are based on the type species and the descriptions of new species are based on individual types, but in the case of a number of the genera many species, and in the case of some species many hundreds of specimens, have been studied.

Revised descriptions of described genera are included in cases where new species are added and, so far as possible, are based on the type species as identified by the writer. If the type species is not available, its nearest ally is utilized.

With this method of basing specific and generic diagnoses on an individual type, allowance must be made for a reasonable limit in the range of variation from the type, which should be brought out (as in Technical Series No. 17, Part I, of the Bureau of Entomology, U. S. Department of Agriculture) whenever a species or genus is discussed in a more comprehensive manner.

The manuscript of this paper was completed and submitted for publication in January, 1913, and only includes references to species and genera described to January 1, 1913.

¹ For references to other collections, acknowledgments, explanation of abbreviations, etc., see preface and introduction to Parts I and II, Technical Series, No. 17, Bureau of Entomology, United States Department of Agriculture.

FAMILY IPIDÆ.¹

SUBFAMILY CRYPHALINÆ.

- Antennal club compressed throughout or but slightly thickened at base; antennal funicle with from three to five joints. Division I.
 Antennal club thickened at base, anterior face obliquely truncate; antennal funicle with five joints. Division II, page 9.

DIVISION I.

- Elytra with scales, rarely with hairs; pronotum with apical margin armed. Subdivision A.
 Elytra without scales; pronotum with apical margin unarmed. Subdivision B, page 8.

SUBDIVISION A.

- Elytral striæ and stria punctures distinct. Section a1.
 Elytral striæ and stria punctures usually obscure. Section a2.

SECTION a1.

- Antennal club with side margins evenly rounded. Subsection b1.
 Antennal club with side margins sinuate. Subsection b2.

SUBSECTION b1.

- c1. Antennal club with septum.
 d1. Antennal funicle 3-jointed; club with sutures.
 1. Genus *Cosmoderes* Eichh., page 10.
 d2. Antennal funicle 4-jointed; club without sutures.
 Club without numerous sensitive pores. 2. Genus *Hypothenoides*, page 11.
 Club with numerous sensitive pores.
 3. Genus *Cryphalomorphus* Schauf. (Pl. I, fig. 3.)
 c2. Antennal club without septum: funicle 4-jointed. 4. Genus *Ptilopodius*, page 11.

SUBSECTION b2.

- c3. Antennal club without septum.
 Antennal funicle 3-jointed. 5. Genus *Trischidias*, page 12.
 c4. Antennal club with septum.
 d3. Antennal funicle 4-jointed, fourth joint narrow.
 6. Genus *Hypothenemus* Westw., page 12.
 d4. Antennal funicle 5-jointed, fifth joint broad.
 7. Genus *Stephanoderes* Eichh., page 21.

SECTION a2.

- Pronotum with basal margin but without lateral margin. Subsection b3.
 Pronotum with basal and lateral margins. Subsection b4, page 8.

SUBSECTION b3.

- c5. Eyes simple; antennal funicle 4-jointed.
 d5. Antennal club with sutures, chitinous or with septa.
 Pronotum with anterior margin more or less produced.
 8. Genus *Procryphalus*, page 33.

¹ For the classification of the family Ipidæ see Tech. Ser. No. 17, Pt. II, Bur. Ent., U. S. Dept. Agr., Jan. 9, 1915, pp. 224-225.

- Pronotum with anterior margin rounded.... 9. Genus *Ernoporides*, page 34.
- d6. Antennal club without sutural septum.
 Antennal club with distinct sutures.. 10. Genus *Ernoporus* Thoms., page 35.
 Antennal club without sutures, the margins fringed with long hairs.
 11. Genus *Stephanorhopalus*, page 35.
- c6. Eyes short, oval, narrowly emarginate; antennal funicle 5-jointed; club
 elongate..... 12. Genus *Trypophloeus* Fairm., page 36.

SUBSECTION b4.

- c7. Tarsi with joint 3 simple.
 d7. Antennal funicle 3-jointed.
 Antennal club with three procurved sutures, without septum.
 13. Genus *Margadillius*, page 37.
 Antennal club with four nearly straight sutures.
 14. <Genus *Cryphalops* Reitt.>
 Antennal club with one straight suture; eyes not emarginate.
 15. <Genus *Cryphaloides* Form.>
- d8. Antennal funicle 4-jointed, the fourth joint broad; eyes emarginate.
 Antennal club with straight sutures on anterior face.
 16. <Genus *Cryptarthrum* Bland.>
- c8. Tarsi with joint 3 stout or emarginate.
 d9. Antennal funicle 4-jointed.
 e1. Third tarsal joint stout.
 Pronotum with anterior margin slightly produced.
 17. Genus *Erieryphalus*, page 38.
- e2. Third tarsal joint deeply emarginate.
 Antennal funicle with joint 4 narrow; club with four sutures, the
 fourth obscure.....18. Genus *Piperius*, page 39.
 Antennal funicle with joint 4 broad; club with three recurved sutures
 on anterior face and three procurved ones on poster-
 ior face.....19. Genus *Cryphalus* Erichs., page 39.
- d10. Antennal funicle 5-jointed.
 Elytra with apex retuse; pronotum with anterior margin produced;
 antennal club with three nearly straight sutures on
 anterior face and three procurved ones on posterior
 face.....20. Genus *Hypocryphalus*, page 41.
 Elytra with apex not retuse; pronotum with anterior margin not pro-
 duced; antennal club with three procurved sutures
 on anterior and two on posterior face.

21. Genus *Dacryphalus*, p. 42.

SUBDIVISION B.

- Pronotum with basal margin, sides parallel; antennal funicle 4-jointed... Section a3.
 22. <Genus *Eidophelus* Eichh.>
- Pronotum without basal margin, sides rounded..... Section a4.

SECTION a4.

- Antennal funicle 4-jointed..... Subsection b5.
 Antennal funicle 5-jointed..... Subsection b6.

SUBSECTION b5.

- c9. Antennal club broad, with broadly procurved sutures.
 Club with one suture23. <Genus *Kyrtogenius* Stroh.>
 Club with two sutures; eyes oblong, simple...24. <Genus *Lepicerus* Eichh.>
 Club with two sutures on anterior and one subapical suture on posterior
 face; eyes simple..25. Genus *Lymanator* Løv. (Pl. II, fig. 25.)

- c10. Antennal club small, narrowed toward base, with two slightly curved sutures; eyes emarginate. 26. <Genus *Dendroterus* Bland.>

SUBSECTION b6.

Antennal funicle 5-jointed.

Pronotum with sides rounded and margins obtuse; club with one or two procurved sutures on anterior face and two procurved ones on posterior face. 27. Genus *Xylocleptes* Ferr., page 42.

Pronotum with sides straight and margins subacute; club with two procurved sutures on anterior and two on posterior face.

28. Genus *Taphrorychus* Eichh. (Pl. II, fig. 28.)

DIVISION II.

Pronotum without rugosities..... Subdivision C.

Pronotum with rugosities..... Subdivision D.

SUBDIVISION C.

Base of pronotum margined, lateral margins obtuse; antennal funicle 5-jointed, fifth joint slightly broader; club with two recurved sutures on anterior, and none on posterior face; eyes emarginate. 29. Genus *Thamnurgus* Eichh. (Pl. II, fig. 29.)

Base of pronotum not margined, lateral margins acute; club with procurved suture on posterior face; antennal funicle 5-jointed.

30. Genus *Thamnurgides*, page 45.

SUBDIVISION D.

Pronotum not strongly produced over the head..... Section a5.

Pronotum strongly produced over the head..... Section a6.

SECTION a5.

Base of pronotum margined; antennal funicle 5-jointed..... Subsection b7.

31. Genus *Coccotrypes* Eichh., page 45.

Base of pronotum not margined..... Subsection b8.

SUBSECTION b8.

- c11. Lateral margin of pronotum acute from posterior angles toward middle.

Anterior rugosities of pronotum fine and of even size.

Antennal funicle 4-jointed; club with one subapical suture on posterior face..... 32. Genus *Carposinus*, page 47.

Antennal funicle 5-jointed; fifth joint broader; club with two procurved sutures on posterior face.. 33. Genus *Spermatoplex*, page 48.

- c12. Lateral margin of pronotum obtuse or subacute toward base; antennal funicle 5-jointed.

d11. Pronotum with anterior rugosities fine and coarse intermixed; pronotum with lateral margin subacute toward base.

Antennal funicle 5-jointed; club with basal area of anterior face very short, posterior face with suture.

34. Genus *Ozopemon* Haged., page 48.

d12. Pronotum with anterior rugosities fine and regular.

e3. Pronotum with sides more or less rounded, with basal angles slightly to strongly rounded, lateral margins obtuse toward base, the apex without teeth.

(Antennal funicle 5-jointed; club with or without sutures on posterior face..... 35. Genus *Dryocoetes* Eichh., page 49.

- e4. Pronotum with sides usually straight and with basal angle acute to slightly rounded, lateral margins subacute toward base, apex with teeth.
- f1. Antennal club with one or two sutures on posterior face; abdominal sternites with sides nearly straight and acuminate from middle toward apex.
- g1. Anterior tibia with ventral area rugose...36. Genus *Dryocoetoides*, page 52.
- g2. Anterior tibia with ventral area smooth.
- h1. Pronotum without apical serrations.
- i1. Pronotal rugosities not extending to base
- j1. Apex of elytra emarginate.....37. Genus *Coptoborus*, page 53.
- j2. Apex of elytra not emarginate.
- Anterior tibia broader toward middle; antennal club with two sutures on posterior face.
38. Genus *Coptodryas*, page 54.
- Anterior tibia broader toward outer apical angle.
- Antennal club with one or two sutures on posterior face.
39. Genus *Euw Wallacea*, page 54.
- i2. Pronotal rugosities extending to base.
- Anterior tibia broader toward middle; club with one or two sutures on posterior face.40. Genus *Ambrosiodmus*, page 55.
- h2. Pronotum with apical serrations.
- i3. Antennal club with two sutures on posterior face.
41. Genus *Theoborus*, page 57.
- i4. Antennal club with one suture on posterior face.
- Anterior tibia broader toward middle and obliquely rounded to inner angle.....42. Genus *Terminalinus*, page 57.
- Anterior tibia broader at outer apical angle and strongly narrowed to inner apical angle.
43. Genus *Boroxyton*, page 58.
- f2. Antennal club without sutures on posterior face; abdominal sternites with sides rounded from middle to apex.
- g3. Anterior tibia with ventral area rugose. .44. Genus *Arixyleborus*, page 59.
- g4. Anterior tibia with ventral area smooth.
- h3. Anterior margin of pronotum without apical serrations; body slender.....45. Genus *Xyleborus* Eichh., page 60.
- h4. Anterior margin of pronotum with apical serrations; body stout.
- Posterior tibia not strongly compressed or broadly dilated.
46. Genus *Anisandrus* Ferr., page 67.
- Posterior tibia strongly compressed and broadly dilated.
47. Genus *Eccoptopterus* Motsch.

SECTION a6.

Antennal funicle 4-jointed; club large, oval.....48. <Genus *Cnestus* Sampson.>

Genus **COSMODERES** Eichhoff.

Antennal funicle 3-jointed, joint 3 narrow and obscure, joint 1 very large and more than twice as long as the other two together; club compressed, oval, side margins rounded, three obscure, slightly procurved sutures on anterior face, and two discontinuous sutures

and one continuous procurved suture on posterior face, suture 2 with septum; eyes emarginate.

NOTE: In the original description the antennal funicle is referred to as 2-jointed, but evidently the obscure third joint is overlooked.

Cosmoderes schwarzi, new species.

(Pl. I, fig. 1.)

Length, female type, 1 mm.; body slender, black; elytra subopaque; pronotum with four marginal teeth; front finely rugose; mandibles very long; elytral striæ and interspaces rugose. Haw Creek, Fla.; E. A. Schwarz, collector. Type, Cat. No. 7644, U. S. National Museum.

NOTE: The type specimen has been lost, except the balsam mount of the antenna.

Genus *HYPOTHENOIDES*, new genus.

Antennal funicle 4-jointed, joint 4 scarcely broader than 2; scape long, clavate; club compressed, broad, anterior and posterior faces subequal, without sutures, but with small sutural septum; eyes large, oblong, elliptical, faintly emarginate; pronotum with faint basal and lateral margins. Type of genus, *Hypothenoides parvus*, new species.

Hypothenoides parvus, new species.

(Pl. I, fig. 2.)

Length, 1.05 mm.; body elliptical, light reddish brown; pronotum as broad as long, sides faintly rounded from base; elytra with sides straight to vertex of declivity, base simple, apex broadly rounded; pronotal rugosities small, in subconcentric rows, not extending toward side margin; anterior margin with four minute teeth; posterior dorsal and lateral areas shining, faintly punctured; head small; front narrow, convex, punctured; elytra glabrous from base to declivity, declivity sparsely clothed with short yellow scales, striæ not impressed, punctures in distinct rows. Calapan, P. I., in dead branches of *Lemon silvestre*, June 3, 1903; J. L. Webb, collector (No. 38). Type, Cat. No. 7597, U. S. National Museum.

Genus *PTILOPODIUS*, new genus.

Antennal funicle 4-jointed, 4 scarcely broader than 2; club compressed, oblong, broadly rounded, without sutures, side margins nearly equal, anterior face pubescent, posterior face smooth, shining, without septa; eyes oblong-oval, not emarginate. Type of genus, *Ptilopodius stephegynis*, new species.

Ptilopodius stephegynis, new species.

(Pl. I, fig. 4; text fig. 1.)

Length, female type, 0.92 mm.; body short, elliptical, light reddish brown; pronotum darker and as broad as long, nearly glabrous, opaque, rugosities fine, confused, extending into lateral area, posterior dorsal and lateral areas subalutaceous and faintly punctured, anterior margin closely serrate; front convex, opaque, faintly

punctured and with median line; elytra with base simple and apex obtusely rounded, dorsal and lateral areas glabrous, striæ not impressed, punctures coarse and in approximate rows, interspaces narrow, smooth, declivity convex, clothed with short, erect, fine yellow scales, stria punctures distinct but fine; anterior tibia and tarsus with long, plume-like hairs. Calapan, P. I., in *Stephegyne diversifolia*, June 23, 1903; J. L. Webb, collector (No. 59). Type, Cat. No. 7599, U. S. National Museum.

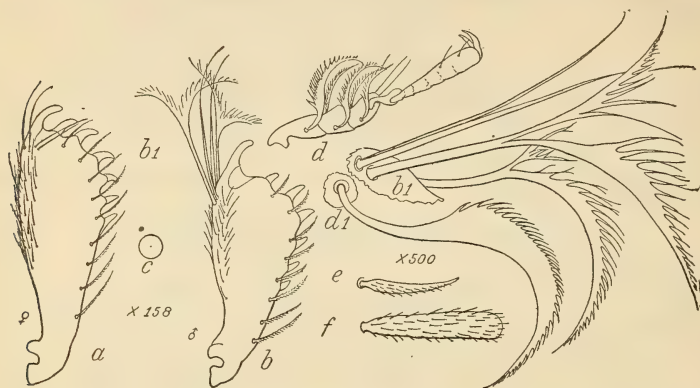


FIG. 1.—*Ptilopodius stephegyensis*: a, Female tib a; b, male tibia; b1, lateral plume; c, center dot, natural size of tibia; d, female tarsus; d1, tibial plume; e, lateral hair; f, elytral scale. Greatly enlarged. (Original.)

Male.—Tibia without plumed appendages and not smaller than the female.

NOTE.—This species varies in length from 0.92 to 1.1 mm. It was numerous under bark of small dead branches of *Stephegyne diversifolia*. Sixty specimens were examined.

Genus TRISCHIDIAS, new genus.

Antennal funicle 3-jointed, joint 3 narrow; club without sutural septa, but with three slightly curved sutures on anterior face and two broadly procurved ones on posterior face; eyes oblong, scarcely emarginate. Type of genus, *Trischidias georgiae*, new species.

Trischidias georgiae, new species.

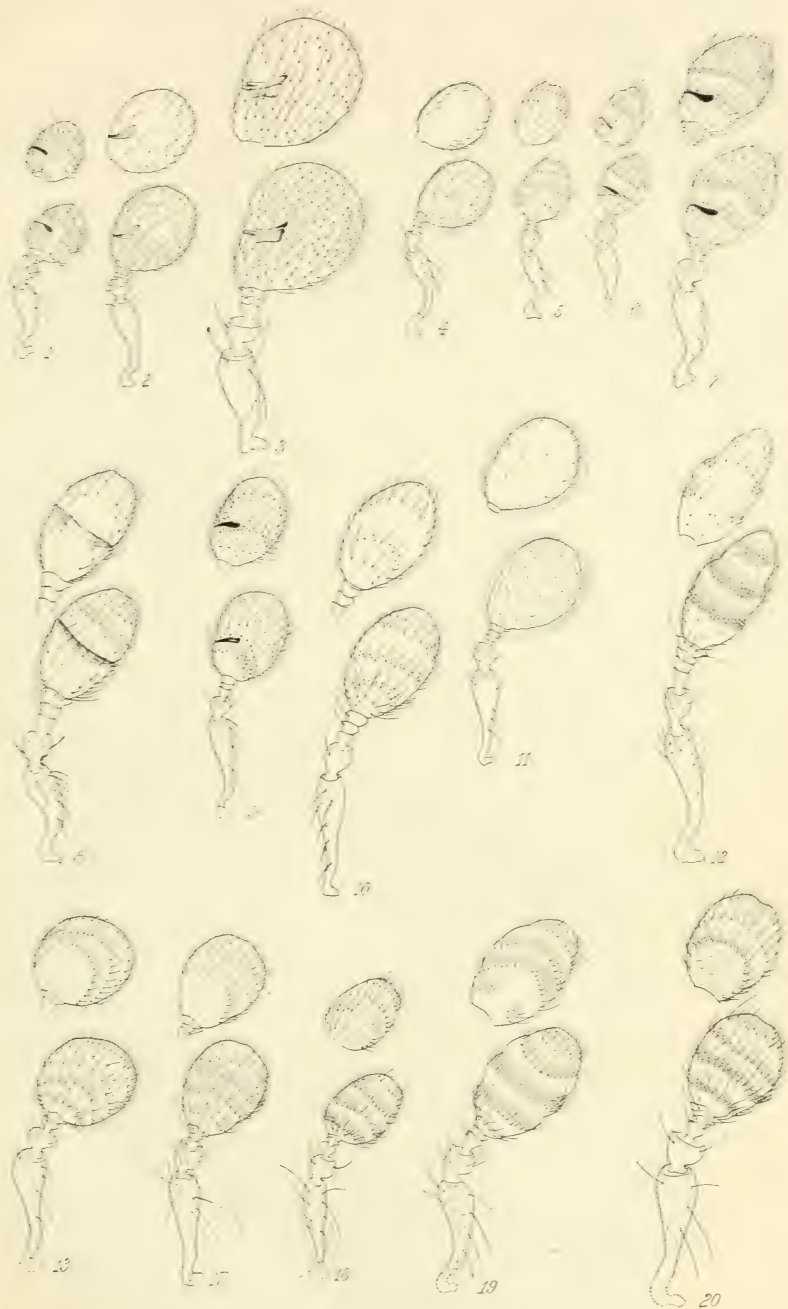
(Pl. I, fig. 5.)

Length, female type, 1.1 mm. Body stout, brown; pronotum with rugose area red, and with two short, closely placed marginal teeth. Front convex, opaque, with small median impression. Elytra shining toward base, the declivity oblique, opaque; stria punctures distinct from declivity to base, obscure on declivity. Brunswick, Ga., March 3; Hubbard and Schwarz collection. Type, Cat. No. 7370, U. S. National Museum.

Genus HYPOTHENEMUS Westwood.

Antennal funicle 4-jointed; club with three sutures on anterior face and one or two on posterior face, suture 1 with a small septum; eyes elliptical, emarginate.

The female specimen from the type series of *H. eruditus* Westw., received through the courtesy of Prof. Poulton, of Oxford, England, shows four joints in the antennal funicle. (Pl. I, fig. 6.) The males



TYPICAL ANTENNAE OF GENERA OF THE CRYPHALINÆ.

FIG. 1.—*Cosmoderes schwarzi*. FIG. 2.—*Hypothenoides parvus*. FIG. 3.—(*Stephanoderes*) *Cryphalomorphus vulgaris*. FIG. 4.—*Philopodius stephanoides*. FIG. 5.—*Tetraschelus concolor*. FIG. 6.—*Hypothecomeres acutatus*. FIG. 7.—*Stephanoderes alapatitii*. FIG. 8.—*Pterocryphalus papuli*. FIG. 9.—*Eucosporides kunda*. FIG. 10.—*E. papavici tiliæ*. FIG. 11.—*Stephanomorphus vulvulæ*. FIG. 12.—*Tetrapodellus bimaculatus*. FIG. 13.—*Micropodellus antipodellus*. FIG. 14.—*Eucryphalus henschawi*. FIG. 15.—*Pipercus pini*. FIG. 16.—*Cryphalus asperatus*. FIG. 17.—*Hypocryphalus vituatus*. (Original.) The posterior face of the club is shown at the left above each figure of the antenna.



are always much smaller and rare, as in *Xyleborus*, and in a number of species of this genus there are but three joints in the funicle, or the fourth is obscure.

- Pronotum with apical margin produced and armed with a single spine. Division I.
 Florida..... *miles* Lec.
 Pronotum with apical margin slightly produced or broadly rounded and armed
 with several small marginal teeth..... Division II.

DIVISION II.

- Body short, stout; pronotum with apical margin slightly produced. . . Subdivision A.
 Body elongate, slender to moderately stout; pronotum with apical margin
 broadly rounded..... Subdivision B.

SUBDIVISION A.

- a1.* Pronotum with rugose area brown.
 Morgantown, W. Va., in *Salix nigra*..... *atomus*, page 15.
 Morgantown, W. Va., in *Salix* sp..... *impressifrons*, page 15.
a2. Pronotum with rugose area red.
b1. Front with median line and posterior median punctures.
 Pregnall, S. C., in *Quercus marylandica*..... *marylandicae*, page 15.
 Chevy Chase, D. C., in *Robinia pseudacacia*..... *robiniae*, page 15.
b2. Front with distinct short impressed line, without punctures.
 Morgantown, W. Va., in *Rhus toxicodendron*..... *toxicodendri*, page 15.

SUBDIVISION B.

- Body elongate Section a3.
 Body moderately elongate to rather stout..... Section a4, page 14.

SECTION a3.

- Elytra light to dark brown; pronotum uniform light to dark and reddish brown,
 but never uniformly reddish, the rugose area sometimes red. . Subsection b3.
 Elytra black; pronotum dark to light uniform reddish. Subsection b4, page 14.

SUBSECTION b3.

- e1.* Front with median shining or impressed line.
d1. Pronotum opaque.
e1. Pronotum uniformly brown.
 Honolulu, Hawaiian Islands..... *bradfordi*, page 15.
 Teneriffe and Madeira..... *aspericollis* Woll.
 Cuba..... *obscurus* Ferr.
 Mexico..... *germari* Eichh.
 Mount Coffee, Liberia..... *flavosquamosus*, page 15.
 Louisiana..... *hispidulus*.
 Spain..... *ehlersi* Eichh.
e2. Pronotum with rugose area reddish or dark brown.
 Cape Town, South Africa..... *nigricollis*, page 16.
 Tryon, N. C., in *Prunus serotina*..... *pruni*, page 16.
 Little Falls, W. Va., in *Cercis canadensis*..... *rumseyi*, page 16.
 Plummers Island, Md., in *Asimina triloba*..... *asiminæ*, page 16.
 Morgantown, W. Va., in *Hamamelis virginiana*..... *hamamelidis*, page 16.

- d2.** Pronotum shining.
 Elytral declivity without fine hairs.
 Guatemala..... *tenuis*, page 16.
 Buitenzorg, Java, in *Myristica fragrans*..... *myristicae*, page 16.
 Cayamas, Cuba..... *lineatifrons*, page 17.
 Nevis, West Indies, in *Saccharum officinarum*..... *sacchari*, page 17.
 Elytral declivity with fine hairs.
 Calapan, P. I., in *Cupania* sp..... *webbi*, page 17.
 Java..... *flavus*, page 17.
- e2.** Front with minute to distinct median or posterior median elevation.
- d3.** Front not impressed and with median elevations.
 Brazil..... *koebeleri*, page 17.
 Calapan, P. I., in *Dipterocarpus polosapis*..... *dipterocarpi*, page 17.
 Africa? in apple..... *mali*, page 17.
- d4.** Front impressed and with posterior median elevation.
 Cayamas, Cuba, in old cotton bolls..... *parvus*, page 17.
 Cayamas, Cuba, in cotton bolls..... *flavipes*, page 18.
 Columbus, Tex..... *columbi*, page 18.
 Java, in fungus..... *<fungicola* Eggers.
 Cayamas, Cuba..... *abdominalis*, page 18.
 Charleston, S. C., in *Ficus* sp..... *rufopalliatu*, page 18.
 Lakeland, Fla., in *Quercus* sp..... *punctifrons*, page 18.
 Cayamas, Cuba..... *brunneipennis*, page 18.
 Mount Coffee, Liberia..... *pallidus*, page 18.
 Cayamas, Cuba, in old cotton bolls..... *amplipennis*, page 19.

SUBSECTION b4.

- Colombia, pasteboard cover of old book..... *eruditus* Westw.
 Colombia..... *<arecae* Horn.
 Pomona, Cal..... *californicus*, page 19.
 Dallas, Tex., in dry wheat stubble..... *tritici*, page 19.
 Canton, China, in *Dolichos lablab*..... *dolichocola*, page 19.

SECTION a4.

- Elytral interspaces with rows of scales..... Subsection b5.
 Elytral interspaces with rows of hairs..... Subsection b6.

SUBSECTION b5.

- e3.** Body moderately elongate.
- d5.** Pronotum dark reddish brown with rugose space reddish; elytral declivity without fine hairs.
 Victoria, Tex..... *subelongatus*, page 19.
 Brazil, in nuts..... *<kunemanni* Reitt.
 Tallulah, La., in *Ficus* sp..... *nigripennis*, page 19.
 Guadeloupe..... *<moschatae* Schauf.
d6. Pronotum uniform brown or reddish; elytral declivity with fine hairs.
 Key West, Fla..... *pubescens*, page 19.
 Guatemala..... *ferrugineus*, page 20.
 Parahyba, Brazil..... *heathi*, page 20.
- e4.** Body rather stout.
- d7.** Interspaces narrow.
 Columbus, Tex..... *sparsus*, page 20.
 Victoria, Tex..... *similis*, page 20.
 Madagascar..... *communis* Schauf.

d8. Interspaces moderately broad.

Syria.....	<simoni Reitt.>
Cayamas, Cuba, on <i>Ceiba</i> sp.....	<i>ceibae</i> , page 20.
Cape Town, South Africa.....	<i>punctipennis</i> , page 20.
Syria.....	<albipilis Reitt.>

SUBSECTION b6.

Cayamas, Cuba.....	<i>pilosus</i> , page 20.
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Hypothenemus atomus, new species.

Length, female type, 0.9 mm.; uniform light brown; pronotum with four closely placed marginal teeth, the two middle ones longer; front flat, opaque, without distinct median longitudinal impression. Morgantown, W. Va., in *Salix nigra*, decaying wood, September 14, 1898; author, collector; Hopk., W. Va. No. 7565. Type, Cat. No. 7460, U. S. National Museum.

Length, male type, 0.5 mm.

Hypothenemus impressifrons, new species.

Length, female type, 1 mm.; uniform brown; pronotum with four subequal marginal teeth; front with distinct median longitudinal impression. Morgantown, W. Va., in *Salix* sp., decayed wood, January 20, 1897; author, collector; Hopk. W. Va. No. 7163d. Type, Cat. No. 7355, U. S. National Museum.

Hypothenemus marylandicae, new species.

Length, female type, 0.75 mm.; elytra black, shining; pronotum reddish, opaque, with four marginal teeth, the two middle ones more prominent. Pregnall, S. C., in *Quercus marylandica*, dead bark on sprout, November 16, 1904; Fiske, collector; Hopk. U. S. No. 3360a. Type, Cat. 7522, U. S. National Museum.

Hypothenemus robiniae, new species.

Length, female type, 0.95 mm.; elytra black, shining; pronotum reddish, with four small marginal teeth, the margins but faintly produced. Chevy Chase, Md., in *Robinia pseudacacia*, decaying bark of fire-killed sprout, July 23, 1905; author, collector; Hopk. U. S. No. 6069b². Type, Cat. No. 7523, U. S. National Museum.

Length, male, 0.55 mm.

Hypothenemus toxicodendri, new species.

Length, female type, 0.95 mm.; elytra black; pronotum dark reddish, with four marginal teeth, the two middle ones more prominent. Morgantown, W. Va., in *Rhus toxicodendron*, bark of dead twigs, December 8, 1901; author, collector; Hopk. W. Va. No. 7776. Type, Cat. No. 7356 U. S. National Museum.

Hypothenemus bradfordi, new species.

Length, female type, 1 mm.; light uniform brown, subopaque; elytra with interspatial scales yellow and closely placed in rows from base to apex; pronotum with six equal marginal teeth; front narrow, convex, faintly carinate. Honolulu, Hawaiian Islands, March 10, 1905; Q. Q. Bradford, collector. Specimens received from D. L. Van Dine. Type, Cat. No. 7567, U. S. National Museum.

Hypothenemus flavosquamosus, new species.

Length, female type, 1.05 mm.; moderately stout, subopaque, pale brown; antennæ and legs yellow; pronotum lighter, and with six small and two smaller marginal teeth; front narrow, convex, shining, faintly punctured, and with faint, transverse median line; punctures of elytral striæ very fine; interspatial scales yellow. Mount Coffee, Liberia, West Africa, March, 1897; O. F. Cook, collector. Type, Cat. No. 7591, U. S. National Museum.

Hypothenemus nigricollis, new species.

Length, female type, 1.2 mm.; black, shining; pronotal rugose space black, except dorsal rugose area which is dull reddish, margin with six irregular teeth; front shining, with median elevated line. Capetown, South Africa, in apple twigs; C. W. Mally, collector (No. 1226). Type, Cat. No. 7568, U. S. National Museum.

Hypothenemus pruni, new species.

Length, female type, 1.25 mm.; slender, brown; pronotal rugose space dark red, with six marginal teeth, four small and two very small; front convex, opaque, with distinct median flat line faintly impressed toward the middle. Tryon, N. C., in *Prunus serotina*, dead bark on branches, December 22, 1913; W. F. Fiske, collector; Hopk. U. S. No. 2550a. Type, Cat. No. 7367, U. S. National Museum.

Length, male, 0.95 mm.

Hypothenemus rumseyi, new species.

Length, female type, 1.15 mm.; elytra dark brown, shining; pronotum and head reddish brown; pronotum with six subequal and two small marginal teeth; front convex, opaque, densely rugosely punctured, and with distinct median shining line. Little Falls, W. Va., in *Cercis canadensis*, dead dry bark on trunk, November 7, 1893; W. E. Rumsey, collector. Type, Cat. No. 7362, U. S. National Museum.

Hypothenemus asiminae, new species.

Length, female type, 1.2 mm.; dark brown; pronotal rugose space and anterior area light red, with six subequal, very small marginal teeth; front convex, subopaque, closely punctured, with faint, short median line. Plummers Island, Md., in *Asimina triloba*, abundant in dead, dry bark, October 23, 1904; author, collector; Hopk., U. S. No. 2580c. Type, Cat. No. 7365, U. S. National Museum.

Length, male, 0.9 mm.

Hypothenemus hamamelidis, new species.

Length, female type, 1.3 mm.; elytra light brown; pronotal rugose space and anterior area light red, with six subequal, marginal teeth; front convex, opaque, with short median line. Morgantown, W. Va., in *Hamamelis virginiana* moist, dead bark, March 20, 1897; author, collector; Hopk., W. Va. No. 7198. Type, Cat. No. 7363, U. S. National Museum.

Length, male, 0.9 mm.

Hypothenemus tenuis, new species.

Length, female type, 1 mm.; elytra dark brown, shining; pronotum dark reddish brown, with posterior dorsal area smooth, shining; margin with four small equal and two very minute teeth; front broad, opaque, punctured, and with short median line. Cacao, Trece Aguas, Alta Vera Paz, Guatemala, March 30; Schwarz and Barber, collectors. Type, Cat. No. 7569, U. S. National Museum.

Hypothenemus myristicae, new species.

Length, female type, 1.1 mm.; dark brown, shining; legs and antennæ yellow pronotum shining, with rugose space dull reddish, and with four equal and two small marginal teeth; front convex, shining toward anterior margin, and with faint posterior elevation. Buitenzorg, Java, in *Myristica fragrans*, March, 1900; Dr. A. Zimmerman, collector (No. 28). Type, Cat. No. 7589, U. S. National Museum.

Hypothenemus lineatifrons, new species.

Length, female type, 1.2 mm.; brown, shining; pronotum with rugose space light red, with four equal and two small marginal teeth; front shining, with distinct elevated median line. Cayamas, Cuba, March 3; E. A. Schwarz, collector. Type, Cat. No. 7570, U. S. National Museum.

Hypothenemus sacchari, new species.

Length, female type, 1.25 mm.; ferruginous; pronotum lighter, rugose space darker, margin with five or six rather coarse subequal teeth; front convex, subopaque, punctured, and with a median shining line; elytra with interspatial scales, coarse on declivity, becoming finer toward the base. Nevis, West Indies, in *Saccharum officinarum*; U. S. Department of Agriculture No. 5838. Type, Cat. No. 7379, U. S. National Museum.

Hypothenemus webbi, new species.

Length, female type, 1.25 mm.; stout, yellowish brown; pronotum with four equal and two small marginal teeth; front with faint posterior elevation; elytral declivity with distinct pubescence mixed with rows of interspatial scales. Calapan, Mindoro, P. I., in bark of dead branches of *Cupania* sp., June 16, 1903; J. L. Webb, collector (No. 7). Type, Cat. No. 7587, U. S. National Museum.

Hypothenemus flavus, new species.

Length, female type, 1.4 mm.; yellowish, shining; elytral declivity with very long yellow scales mixed with fine hairs; pronotum with four rather prominent marginal teeth; front rather narrow, alutaceous, with faint oblong punctures and submedian shining space. Island of Java. Hubbard and Schwarz collection. Type, Cat. No. 7571, U. S. National Museum.

Hypothenemus koebele, new species.

Length, female type, 1 mm.; dark brown; pronotum reddish brown, rugose space red, with four small marginal teeth; front opaque, closely punctured, and with faint median line. Brazil; A. Koebele, collector. Type, Cat. No. 7572, U. S. National Museum.

Hypothenemus diptercarpi, new species.

Length, female type, 1.05 mm.; reddish; pronotum with rugose space lighter and with six small marginal teeth; front with faint median line and elevation; elytra with stria punctures distinct to apex, striae impressed on declivity, and interspaces faintly rugose. Calapan, Mindoro, P. I., in bark of dead branch of *Dipterocarpus polosapis*, June 16, 1903; J. L. Webb, collector (No. 4). Type, Cat. No. 7588, U. S. National Museum.

Hypothenemus mali, new species.

Length, female type, 1.1 mm.; black, subopaque; pronotum with rugose space red and with three marginal teeth; front broad, convex, closely rugosely punctured, and with fine median line and elevation. Capetown, South Africa, in apple; C. W. Mally collector (No. 1226). Type, Cat. No. 7573, U. S. National Museum.

Hypothenemus parvus, new species.

Length, female type, 1 mm.; light brown, shining; pronotum with rugose space faintly reddish and with six small marginal teeth; front convex, subopaque, punctured, and with minute posterior median shining elevation. Cayamas, Cuba, March 23; E. A. Schwarz, collector. Type, Cat. No. 7574, U. S. National Museum.

Hypothenemus flavipes, new species.

Length, female type, 1.15 mm.; light brown; pronotal rugose space dark brown, with four subequal and two small marginal teeth; front convex, subopaque, faintly punctured, with median transverse impression and posterior median shining elevation. Cayamas, Cuba, March 6; E. A. Schwarz, collector. Type, Cat. No. 7575, U. S. National Museum.

Hypothenemus columbi, new species.

Length, female type, 1.05 mm.; elytra dark brown or black, shining; pronotum and head dark reddish, rugose space lighter, with six small marginal teeth; front with anterior area flat or impressed, shining, and with transverse elevation. Columbus, Tex., July 5; Hubbard and Schwarz collection. Type, Cat. No. 7361, U. S. National Museum.

Length, male (?), 0.9 mm.

Hypothenemus abdominalis, new species.

Length, female type, 1.15 mm.; light brown; pronotum slightly lighter, opaque; rugose space lighter, but not reddish; margin with six equal teeth; front shining, impressed, and with transverse elevation; abdominal sternite 3 longer than 2. Cayamas, Cuba, February 26; E. A. Schwarz, collector. Type, Cat. No. 7576, U. S. National Museum.

Hypothenemus rufopalliatius, new species.

Length, female type, 1.15 mm.; elytra brown; pronotum reddish brown; rugose area to margin light reddish; margin with four equal and two small teeth; front impressed, shining, with posterior median triangular elevation. Charleston, S. C., in dead twigs of *Ficus* sp., July 15, 1881; Joseph Cohen, collector; U. S. Department of Agriculture No. 971. Type, Cat. No. 7577, U. S. National Museum.

Hypothenemus punctifrons, new species.

Length, female type, 1.1 mm.; shining; prothorax and head dark reddish; pronotum with six marginal teeth, four small, two very small; elytra black; legs, antennæ, and elytral scales yellowish; elytral striæ faintly impressed and faintly scabrous; interspaces broader than usual and with row of faint granules; front convex, subopaque, and distinctly but finely punctured, with small, median, obtuse elevation. Lakeland, Fla., in *Quercus* sp., dead bark on twigs, April 7, 1904; Hopk. U. S. No. 2711d. Type, Cat. No. 7525, U. S. National Museum.

Hypothenemus brunneipennis, new species.

Length, female type, 1.2 mm.; elytra dark brown; pronotum reddish brown, rugose space lighter, margin with four separated equal and two smaller teeth; front shining, anteriorly impressed, with posterior transverse elevation. Cayamas, Cuba, January 26; E. A. Schwarz, collector. Type, Cat. No. 7578, U. S. National Museum.

Hypothenemus pallidus, new species.

Length, female type, 1.3 mm.; elongate, yellowish brown; sides of pronotum and elytra parallel; pronotum with posterior area shining, rugose space slightly darker, with six equal and two to four minute marginal teeth; front convex, with anterior area impressed, shining, and with posterior transverse elevation; elytra shining, stria punctures very fine, slightly coarser on the lateral area; interspaces yellow, becoming larger on declivity where they are mixed with fine hairs. Mount Coffee, Liberia, March, 1895; O. F. Cook, collector. Type, Cat. No. 7590, U. S. National Museum.

Hypothenemus amplipennis, new species.

Length, female type, 1.15 mm.; elytra rather short, stout, black, shining; pronotum reddish, the margin with six teeth; front impressed, shining, with posterior median transverse elevation. Cayamas, Cuba, in old cotton bolls, March 8; E. A. Schwarz, collector. Type, Cat. No. 7579, U. S. National Museum.

Hypothenemus californicus, new species.

Length, female type, 1.3 mm.; elytra black, subopaque; pronotum and head reddish, the former with six equal and rather prominent marginal teeth; front convex, opaque, alutaceous, and with median elevated line; elytral striæ faintly impressed. Pomona, Cal., April 25, 1895; H. C. Fall, collector. Type, Cat. No. 7364, U. S. National Museum.

Hypothenemus tritici, new species.

Length, female type, 1.2 mm.; elytra black; pronotum and head dark reddish, with six equal marginal teeth; front narrow, subopaque, alutaceous, with short median line; elytral striæ scarcely impressed, punctures distinct except on declivity. Dallas, Tex., in dry wheat stubble in field; Webster No. 2112; W. J. Phillips, collector; Hopk. U. S. No. 1173. Type, Cat. No. 7526, U. S. National Museum.

Hypothenemus dolichocola, new species.

Length, female type, 1.25 mm.; elytra black; pronotum dark reddish brown, with rugose space red, margin with four equal teeth; front convex, shining, punctured, with posterior transverse elevation. Canton, China, in *Dolichos lablab*, 1908; U. S. Dept. of Agriculture, Bureau of Plant Industry collection. Type, Cat. No. 7580, U. S. National Museum.

Hypothenemus subelongatus, new species.

Length, female type, 0.95 mm.; elytra dark brown; pronotum reddish brown, with rugose space red; posterior area shining; anterior margin with four equal teeth; front opaque, with broken shining line; punctures of elytral striæ rather coarse and rugose. Victoria, Tex., March 26; E. A. Schwarz, collector. Type, Cat. No. 7581, U. S. National Museum.

Hypothenemus nigripennis, new species.

Length, 1.15 mm.; elytra black, subopaque; pronotum dark brown, opaque; dorsal rugose space faintly reddish; anterior margin with four small equal teeth; front subopaque, with anterior median line punctured; elytral striæ faintly impressed, punctures moderately coarse. Tallulah, La., in dead bark of *Ficus* sp., February 4, 1910; R. A. Cushman, collector; Hopk. U. S. No. 8634. Type, Cat. No. 7582, U. S. National Museum.

Hypothenemus pubescens, new species.

Length, female type, 1.15 mm.; elytra light brown; pronotum light reddish brown; anterior margin with four teeth, median ones coarser and closely placed; front convex, alutaceous, and with median line; elytra with striæ not impressed, punctures fine; interspatial scales yellowish and closely placed, mixed with dense fine hairs on declivity. Key West, Fla., April 5, 1903; E. A. Schwarz, collector. Type, Cat. No. 7524, U. S. National Museum.

Hypothenemus ferrugineus, new species.

Length, female type, 1.05 mm.; elytra dark brown; pronotum uniformly yellowish red; anterior margin with four small equal teeth; front convex, shining, obscurely punctured, and with fine median line faintly elevated posteriorly; elytra with striæ not impressed, punctures very fine, interspacial scales short, mixed with obscure hairs on declivity. Cacao, Trece Aguas, Alta Vera Paz, Guatemala, April 13; Schwarz and Barber, collectors. Type, Cat. No. 7584, U. S. National Museum.

Hypothenemus heathi, new species.

Length, female type, 1.25 mm.; elytra black; pronotum uniform yellowish red; anterior margin with two small median and four larger teeth; front convex, shining, with median line; elytra with striæ faintly impressed, interspaces with rows of densely placed scales, coarse on declivity and mixed with obscure fine hairs. Independencia, Parahyba, Brazil; Mann and Heath collection. Type, Cat. No. 7521, U. S. National Museum.

Hypothenemus sparsus, new species.

Length, female type, 1.16 mm.; dark brown, shining; pronotum with rugose space reddish, anterior margin with three small teeth and one or two minute ones; front convex, with anterior area shining and posterior area alutaceous; elytra with striæ faintly impressed and punctures coarse. Columbus, Tex., June 6; Hubbard and Schwarz collection. Type, Cat. No. 7368, U. S. National Museum.

Length, male (?), 1 mm.

Hypothenemus similis, new species.

Length, female type, 1.15 mm.; elytra light brown, shining; pronotum lighter, with rugose space dark brown, anterior margin with four equal and two smaller teeth; front shining toward anterior margin and with faint impressed median line; elytra with striæ faintly impressed, punctures moderately coarse. Victoria, Tex., March 21; E. A. Schwarz, collector. Type, Cat. No. 7554, U. S. National Museum.

Hypothenemus ceibae, new species.

Length, female type, 1.35 mm.; dark brown; elytra subopaque; pronotum with dorsal rugose space reddish, slightly elevated anterior margin with six small equal teeth; front broad, convex, with median shining spot; elytral striæ faintly impressed, punctures fine and irregular, interspaces with very fine punctures. Cayamas, Cuba, on *Ceiba* sp., December 23; E. A. Schwarz, collector. Type, Cat. No. 7583, U. S. National Museum.

Hypothenemus punctipennis, new species.

Length, female type, 1.3 mm.; brown, shining, elongate, moderately stout; pronotum with rugose space dull reddish; anterior margin with four equal and two smaller teeth; front convex, opaque, with minute shining elevation; elytral striæ with irregular, closely placed, rather fine punctures, interspaces sparsely punctured. Capetown, West Africa, in apple twigs; C. W. Mally, collector (No. 1226). Type, Cat. No. 7585, U. S. National Museum.

Hypothenemus pilosus, new species.

Length, female type, 1.15 mm.; moderately elongate; elytra black, shining; pronotum reddish brown, anterior margin with six very small teeth; front convex, opaque, with median shining line; elytral striæ faintly impressed, distinctly punctured. Cayamas, Cuba, March 3; E. A. Schwarz, collector. Type, Cat. No. 7586, U. S. National Museum.

Genus **STEPHANODERES** Eichhoff.

Antennal funicle 5-jointed, sometimes with four joints in male, which is smaller and rare, joint 5 broad; club compressed, broad, with three irregular sutures on anterior and at least two on posterior face, suture 1 with septum; eyes oblong, narrowly and acutely emarginate, rarely simple.

Pronotal rugosities numerous, not very coarse..... Division I.
Pronotal rugosities sparse, very coarse..... Division II, page 23.

DIVISION I.

Elytral striæ not impressed..... Subdivision A.
Elytral striæ impressed; pronotum short, sides not parallel; body moderately elongate..... Subdivision B, page 22.

SUBDIVISION A.

Pronotum subelongate to elongate, with sides parallel, or nearly so..... Section a1.
Pronotum short, with sides rounded..... Section a2.

SECTION a1.

Eyes not emarginate..... Subsection b1.
Eyes emarginate..... Subsection b2.

SUBSECTION b1.

Cayamas, Cuba..... *flavicollis*, page 24.
Oahu, Hawaii..... *<ruficeps Perkins.>*
Pagbilao, P. I..... *pygmaeus*, page 24.

SUBSECTION b2.

c1. Elytra with fine punctures.

d1. Pronotum with four marginal teeth.

Cayamas, Cuba..... *elongatus*, page 25.

d2. Pronotum with six or more marginal teeth.

Cayamas, Cuba..... *unicolor*, page 25.

Cayamas, Cuba..... *subconcentralis*, page 25.

Colombia..... *<myrmedon Eichh.>*

Cayamas, Cuba, in *Gossypium*..... *gossypii*, page 25.

Tampico, Mexico..... *parallelus*, page 25.

Guatemala..... *cylindricus*, page 25.

Antilles..... *depressus* Eichh.

c2. Elytra with coarse punctures.

San Bernardino, Paraguay..... *diferens*, page 25.

SECTION a2.

Elytral declivity with densely placed interspacial scales mixed with fine hairs..... Subsection b3.

Elytral declivity with interspacial scales moderately dense..... Subsection b4.

SUBSECTION b3.

c3. Elytral striæ not impressed on declivity, punctures very fine.

Aguadilla, P. R..... *opacifrons*, page 25.

c4. Elytral striæ impressed toward and on declivity, punctures coarse and shallow.

Cayamas, Cuba..... *squamosus*, page 26.

SUBSECTION b4.

Morgantown, W. Va., in *Evonymus atropurpureus* *evonymi*, page 26.

SUBDIVISION B.

Pronotum with six or more marginal teeth Section a3.

Pronotum with four marginal teeth and sometimes with two smaller ones Section a4.

SECTION a3.

Front with faint posterior median elevation Subsection b5.

Front without faint posterior median elevation Subsection b6.

SUBSECTION b5.

c5. Pronotum with six equal marginal teeth.
New Orleans, La., in *Taxodium distichum* *seriatum* Eichh.
Guatemala *guatemalensis*, page 26.

c6. Pronotum with six unequal marginal teeth.
Pernambuco, Brazil *brasilensis*, page 26.
Georgia *georgiae*, page 26.
San Bernardino, Paraguay *paraguayensis*, page 26.

SUBSECTION b6.

c7. Pronotum with six equal marginal teeth, rarely with additional smaller ones.

d5. Pronotum with six equal marginal teeth.

Cayamas, Cuba *minutus*, page 26.
Columbus, Tex. *texanus*, page 26.
Mexico *<pulverulentus Eichh.>*
West Virginia, in *Quercus* sp *lecontei*, page 27.
Manila, P. I., in *Tamarindus indica* *tamarindi*, page 27.
Madagascar *<vulgaris Schauff.>*
San Bernardino, Paraguay *fiebrigi*, page 27.

d6. Pronotum with four equal and two small marginal teeth.

Wood County, W. Va., in *Pinus* sp *pini*, page 27.
Morgantown, W. Va., in *Salix* sp *salicis*, page 27.
Mt. Coffee, Liberia *cooki*, page 27.
Haw Creek, Fla. *floridensis*, page 27.
Alabama, in *Ficus* sp *ficus*, page 28.
New Orleans, La. *soltavi*, page 28.

c8. Pronotum with more than six marginal teeth.

Montserrat, Trinidad *trinitatis*, page 28.
lucasi, page 28.
Tampico, Mexico *multidentatus*, page 28.

SECTION a4.

Elytra shining, interspaces with rows of fine distinct punctures Subsection b7.

Elytra with interspaces not distinctly punctured Subsection b8.

SUBSECTION b7.

Victoria, Tex. *interstitialis*, page 28.

Brownsville, Tex. *interpunctus*, page 28.

SUBSECTION b8.

c9. Pronotum with lateral area shining.

Lakeland, Fla., in <i>Quercus</i> sp	<i>virentis</i> , page 28.
Orlando, Fla., in pecan	<i>pecanis</i> , page 29.
Columbus, Tex.	<i>approximatus</i> , page 29.
Cayamas, Cuba	<i>nitidipennis</i> , page 29.
South America	< <i>nanus</i> Haged.>
Cayamas, Cuba	<i>nitidulus</i> , page 29.
Livingston, Guatemala	<i>ferrugineus</i> , page 29.

c10. Pronotum with lateral area opaque or subopaque.

Allegheny, Pa.	<i>rufescens</i> , page 29.
Tallahassee, Fla.	<i>flavescens</i> , page 29.
Trinidad, West Indies	<i>buscki</i> , page 30.
Cayamas, Cuba	<i>obliquus</i> , page 30.
Cayamas, Cuba	<i>subopacicolis</i> , page 30.
Washington, D. C., in oak	<i>opacipennis</i> , page 30.
Morgantown, W. Va., in <i>Picea</i> sp.	<i>quadridentatus</i> , page 30.

DIVISION II.

Elytral striæ not impressed, punctures very fine; front broadly impressed and and with posterior transverse elevation	Subdivision C.
Elytral striæ impressed and punctures distinct; front not transversely im- pressed	Subdivision D.

SUBDIVISION C.

Pronotum with four marginal teeth	Section a5.
Pronotum with two marginal teeth	Section a6.

SECTION a5.

Africa, in apple twigs	<i>africanus</i> , page 30.
Cayamas, Cuba	<i>obesus</i> , page 30.
Guadeloupe	< <i>setosus</i> Eichh.>
Siam	< <i>coriaceus</i> Eichh.>
Angat, P. I., in "lobalog"	<i>philippinensis</i> , page 31.

SECTION a6.

Piedmont, Italy	< <i>arundinis</i> Eichh.>
Brownsville, Tex.	<i>brunneus</i> , page 31.
Brownsville, Tex.	<i>frontalis</i> , page 31.
Hawaii, in orange wood	<i>perkinsi</i> , page 31.
Colombia, South America	< <i>fuscicollis</i> Eichh.>
Hawaii, in <i>Acacia</i> sp.	< <i>maculicollis</i> Sharp.>
New Caledonia Island	< <i>farinosus</i> Bland.>
New Caledonia Island	< <i>vafer</i> Bland.>

SUBDIVISION D.

Pronotum with three or four marginal teeth	Section a7.
Pronotum with two marginal teeth	Section a8.

SECTION a7.

Elytra not glabrous, third interspace of declivity not more elevated ..	Subsection b9.
Elytra glabrous, third interspace of declivity elevated	Subsection b10.

SUBSECTION b9.

San Diego, Tex.....	<i>tridentatus</i> , page 31.
Brownsville, Tex.....	<i>niger</i> , page 31.
Tampico, Mexico.....	<i>nitidifrons</i> , page 31.
Japan.....	< <i>peritus</i> Bland.>
Mount Coffee, Liberia.....	<i>liberiensis</i> , page 31.
Tampico, Mexico.....	<i>puncticollis</i> , page 32.
Java.....	< <i>javanus</i> Eggers.>

SUBSECTION b10.

Angat, P. I., in "lobalog".....	<i>glabripennis</i> , page 32.
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SECTION a8.

- Elytral interspaces each with row of scales mixed with very fine hairs or very fine scales on declivity..... Subsection b11.
- Elytral interspaces each without row of scales but with hairs in rows or not, and mixed or not with densely placed scales on the declivity. Subsection b12.

SUBSECTION b11.

Cape Town, South Africa.....	<i>mallyi</i> , page 32.
Southeastern United States, in <i>Quercus</i> sp.....	<i>rotundicollis</i> Eichh.
Berkley, W. Va., in <i>Quercus prinus</i>	<i>quercus</i> , page 32.
Calapan, P. I., in <i>Sterculia</i> sp.....	<i>sterculiae</i> , page 32.
Calapan, P. I., in <i>Psidium</i> sp.....	<i>psidii</i> , page 32.
Texas.....	<i>erectus</i> Lec.
Mexico.....	< <i>validus</i> Bland.>
Japan.....	< <i>tristis</i> Eichh.>
New Grenada.....	< <i>opacus</i> Eichh.>
Cayamas, Cuba.....	<i>cubensis</i> , page 32.
Round Mountain, Tex., in fig wood.....	<i>brunneicollis</i> , page 33.

SUBSECTION b12.

- c11. Elytral declivity with fine hairs mixed with longer ones; apex rounded.
- | | |
|----------------|-------------------------------|
| Venezuela..... | < <i>costatus</i> Eichh.> |
| Asia..... | < <i>cassiae</i> Eichh.> |
| India..... | < <i>hampei</i> Ferr.> |
| Kamerun..... | < <i>winkleri</i> Reitt.> |
| Tennessee..... | < <i>sculpturatus</i> Eichh.> |
- c12. Elytra with fine short scales mixed with moderately long interspacial hairs; apex not broadly rounded.
- | | |
|------------------------------|--|
| Texas..... | <i>chapuisii</i> Eichh. (Pl. I, fig. 7.) |
| Japan..... | < <i>expers</i> Bland.> |
| Hawaii..... | < <i>griseus</i> Blackburn> |
| Tanga..... | < <i>alutaceus</i> Schauf.> |
| North Carolina..... | <i>dissimilis</i> Zimm. |
| Island of St. Mauritius..... | < <i>elephas</i> Eichh.> |

Stephanoderes flavicollis, new species.

Length, female type, 1.5 mm.; elytra deep black; pronotum uniform yellowish-red, with six marginal teeth; front short, convex, opaque. Cayamas, Cuba, March 15; E. A. Schwarz, collector. Type, Cat. No. 7559, U. S. National Museum.

Stephanoderes pygmaeus, new species.

Length, female type, 0.95 mm.; elytra brown; pronotum uniform yellow; front with median shining elevated line; elytra with stria punctures moderately coarse, rugose. Pagbilao, P. I., July 26, 1903; J. L. Webb, collector. Type, Cat. No. 7560, U. S. National Museum.

Stephanoderes elongatus, new species.

Length, female type, 1.1 mm.; body very slender, reddish-brown; pronotum with rugose space red; front convex, short, opaque. Cayamas, Cuba, February 24; E. A. Schwarz, collector. Type, Cat. No. 7561, U. S. National Museum.

Stephanoderes unicolor, new species.

Length, female type, 1.15 mm.; light brown; pronotum with rugose space brown, anterior margin with four equal and two smaller teeth; front short, subopaque, with posterior shining elevation. Cayamas, Cuba, February 27; E. A. Schwarz, collector. Type, Cat. No. 7562, U. S. National Museum.

Stephanoderes subconcentralis, new species.

Length, female type, 1.2 mm.; dark brown, shining; pronotum with posterior and lateral areas smooth, shining, rugosities in subconcentric rows, anterior margin with six equal and several smaller teeth; front short, convex, with median shining space and posterior shining elevation; elytra with stria punctures rugose. Cayamas, Cuba, February 24; E. A. Schwarz, collector. Type, Cat. No. 7563, U. S. National Museum.

Stephanoderes gossypii, new species.

Length, female type, 1.3 mm.; reddish-brown; elytra shining; pronotum with sides faintly rounded, apex subtruncate, with six prominent equal teeth; front convex, shining, with faint posterior median shining elevation; elytral striae with punctures distinct, not fugose. Cayamas, Cuba, in *Gossypium*, January 7; E. A. Schwarz, collector. Type, Cat. No. 7557, U. S. National Museum.

Stephanoderes parallelus, new species.

Length, female type, 1.25 mm.; dark brown; pronotum and elytra with sides parallel, anterior margin with four equal and two small teeth; front shining, with small but distinct posterior median elevation. Tampico, Mexico, December 26; E. A. Schwarz, collector. Type, Cat. No. 7556, U. S. National Museum.

Stephanoderes cylindricus, new species.

Length, female type, 1.35 mm.; elytra dark brown; pronotum reddish-brown, with six equal marginal teeth; front with anterior area shining, faintly impressed, with median opaque elevation. Cacao, Trece Aguas, Alta Vera Paz, Guatemala, April 15; Schwarz and Barber, collectors. Type, Cat. No. 7564, U. S. National Museum.

Stephanoderes differens, new species.

Length, female type, 1.75 mm.; elytra dark brown, shining; pronotum with rugose space reddish, anterior margin with six teeth; front faintly impressed, shining, with faint posterior median elevation, sides somewhat rounded; punctures of elytral striae coarse, shallow; seventh abdominal tergite exposed, subvertical. San Bernardino, Paraguay; K. Fiebrig, collector (No. 1351). Type, Cat. No. 7541, U. S. National Museum.

Stephanoderes opacifrons, new species.

Length, female type, 1.1 mm.; dark brown, opaque; pronotum with rugose space reddish, anterior margin with four teeth; front short, convex, uniformly opaque. Aguadilla, P. R., January, 1899; August Busck, collector. Type, Cat. No. 7565, U. S. National Museum.

Stephanoderes squamosus, new species.

Length, female type, 1.5 mm.; elytra dark reddish-brown, opaque; pronotum reddish-brown, opaque, anterior margin with four closely placed and two smaller teeth; front faintly impressed anteriorly, with median shining line; elytral declivity steep, flattened, and very densely clothed with long interspacial scales; interspaces narrow, rugose. Cayamas, Cuba, March 12; E. A. Schwarz, collector (No. 417). Type, Cat. No. 7566, U. S. National Museum.

Stephanoderes evonymi, new species.

Length, female type, 1.2 mm.; uniform light brown; pronotum with four equal and two small marginal teeth; front convex, with faint, shining, median elevation; stria punctures moderately coarse, becoming coarser on declivity. Morgantown, W. Va., in *Evonymus atropurpureus*, March 20, 1897; author, collector; Hopk. W. Va. No. 7199b. Type, Cat. No. 7358, U. S. National Museum.

Length, male, 0.925 mm.

Stephanoderes guatemalensis, new species.

Length, female type, 1.45 mm.; elytra dark brown, shining; pronotum uniformly lighter, with six equal marginal teeth; front with median shining line. Cacao, Trece Aguas, Alta Vera Paz, Guatemala, April 4; Barber and Schwarz, collectors. Type, Cat. No. 7380, U. S. National Museum.

Stephanoderes brasiliensis, new species.

Length, female type, 1.5 mm.; elytra light brown; pronotum lighter, rugose space darker, anterior margin with six small, equal teeth; front flattened anteriorly, with median shining line. Pernambuco, Brazil; U. S. National Museum collection. Type, Cat. No. 7372, U. S. National Museum.

Stephanoderes georgiæ, new species.

Length, female type, 1.5 mm.; uniform dark reddish-brown; pronotum with six marginal teeth; front convex, with median line and minute posterior elevation; elytral striæ distinctly impressed, punctures coarse. Georgia. Type, Cat. No. 7385, U. S. National Museum.

Stephanoderes paraguayensis, new species.

Length, female type, 1.65 mm.; elytra dark brown, shining; pronotum lighter, opaque, rugose space dull reddish, anterior margin with six teeth; front short, opaque, with median shining space; elytral striæ distinctly impressed on lateral area. San Bernardino, Paraguay; K. Fiebrig, collector. Type, Cat. No. 7377, U. S. National Museum.

Stephanoderes minutus, new species.

Length, female type, 1.25 mm.; black; pronotum with six equal marginal teeth, rugose space faintly reddish; front convex, opaque, with median shining area; elytral striæ coarse, interspaces narrow. Cayamas, Cuba, January 16; E. A. Schwarz, collector. Type, Cat. No. 7366, U. S. National Museum.

Stephanoderes texanus, new species.

Length, female type, 1.45 mm.; elytra dark brown; pronotum reddish brown; rugose space reddish; front short, opaque, with median shining line which is posteriorly sulcate; elytral striæ faintly impressed, punctures moderately coarse. Columbus, Tex., July 3; Hubbard and Schwarz collection. Type, Cat. No. 7373, U. S. National Museum.

Stephanoderes lecontei, new species.

Length, female type, 1.55 mm.; elytra dark brown; pronotum uniformly reddish brown, subopaque; front narrow, subopaque, with median longitudinal shining space; elytral striæ impressed and with a row of very fine, obscure, reclining hairs, punctures moderately coarse, closely placed, with intervening elevations, not coarser on declivity. Jefferson County, W. Va., in dead galls on twigs of *Quercus* sp., October 10, 1892; author, collector; Hopk. W. Va. No. 2544b. Type, Cat. No. 7357, U. S. National Museum.

Length of male, 1.10 mm.

Stephanoderes tamarindi, new species.

Length, female type, 1.35 mm.; elytra dark brown; pronotum reddish brown; front with faint, median, impressed line; elytral striæ moderately fine. Manila, P. I., in *Tamarindus indica* twigs, October 6, 1905; W. T. Lyons, collector. Type, Cat. No. 7530, U. S. National Museum.

Stephanoderes fiebrigi, new species.

Length, female type, 1.7 mm.; elytra dark brown, shining; pronotum reddish brown, opaque; rugose space reddish; anterior margin with six equal teeth; front shining, with median line; elytral striæ impressed, punctures coarse, interspaces almost obscured on lateral area. San Bernardino, Paraguay, September 25; K. Fiebrig, collector. Type, Cat. No. 7387, U. S. National Museum.

Stephanoderes pini, new species.

Length, female type, 1.4 mm.; uniform brown; pronotum with four equal and two smaller marginal teeth; front flat, anterior area shining; Kanawha Station, W. Va., in *Pinus* sp., August 18, 1900; author, collector; Hopk. W. Va. No. 7689b. Type, Cat. No. 7376, U. S. National Museum.

Stephanoderes salicis, new species.

Length, female type, 1.45 mm.; dark brown; elytra subopaque; pronotum with rugose space lighter, anterior margin with four small equal teeth and two very minute ones; front convex, with median shining line, posteriorly sulcate; elytral striæ distinctly impressed, punctures coarse. Morgantown, W. Va., in *Salix* sp., January 20, 1897; author, collector; Hopk. W. Va. No. 7163c. Type, Cat. No. 7359, U. S. National Museum.

Stephanoderes cooki, new species.

Length, female type, 1.55 mm.; elytra ferruginous, shining; pronotum lighter, opaque, anterior margin with four equal and two smaller teeth; front with median shining line, posteriorly sulcate; elytral striæ faintly impressed, punctures fine, declivity oblique. Mount Coffee, Liberia, February, 1897; O. F. Cook, collector. Type, Cat. No. 7592, U. S. National Museum.

Stephanoderes floridensis, new species.

Length, female type, 1.3 mm.; elytra and pronotum black, shining, except rugose area of latter; anterior margin of pronotum with four equal, closely placed teeth and two very minute ones; front with long, median, shining line; elytral striæ faintly impressed, with rather coarse, evenly placed punctures, declivity steep. Haw Creek, Fla.; E. A. Schwarz, collector. Type, Cat. No. 7375, U. S. National Museum.

Stephanoderes ficus, new species.

Length, female type, 1.4 mm.; elytra light to dark brown, shining; pronotum opaque, lighter brown, anterior margin with four small teeth and two smaller ones; front with short median line, posteriorly sulcate; elytral striæ scarcely impressed, punctures moderately coarse, shallow. Alabama, in branches of *Ficus* sp.; C. F. Baker, collector (No. 1987). Type, Cat. No. 7374, U. S. National Museum.

Stephanoderes soltau, new species.

Length, female type, 1.45 mm.; elytra reddish brown, shining; pronotum uniform lighter, opaque, with four widely separated, equal, marginal teeth and two smaller ones; front with short, median, shining line; elytral striæ faintly impressed, punctures moderately coarse, closely placed. New Orleans, La.; H. Soltau collection. Type, Cat. No. 7529, U. S. National Museum.

Stephanoderes trinitatis, new species.

Length, female type, 1.5 mm.; uniform black; elytra shining; pronotum opaque, with six subequal marginal teeth; front opaque, with median shining line; elytral striæ with punctures fine, becoming coarser on lateral area. Montserrat, Trinidad, June 29, 1905; August Busck, collector. Type, Cat. No. 7528, U. S. National Museum.

Stephanoderes lucasi, new species.

Length, female type, 1.6 mm.; uniform reddish brown, shining; pronotum with six equal and two very small marginal teeth; front with median shining line, posteriorly sulcate; elytral striæ faintly impressed, punctures smaller, closely placed, declivity oblique. From stomach of hummingbird; J. H. Lucas, collector. Type, Cat. No. 7531, U. S. National Museum.

Stephanoderes multidentatus, new species.

Length, female type, 1.6 mm.; black; elytra moderately shining; pronotum opaque, with rugosities fine, numerous, and with six equal and two very small marginal teeth; elytral striæ impressed, punctures small, declivity convex, steep. Tampico, Mexico, December 24; E. A. Schwarz, collector. Type, Cat. No. 7532, U. S. National Museum.

Stephanoderes interstitialis, new species.

Length, female type, 1.5 mm.; elytra dark brown; pronotum reddish brown, with four equal marginal teeth; front convex, opaque, with median shining line; punctures of elytral striæ small, closely placed, interspatial scales rather dense on declivity, coarse and sparser toward base. Victoria, Tex., March 2; E. A. Schwarz, collector. Type, Cat. No. 7555, U. S. National Museum.

Stephanoderes interpunctus, new species.

Length, female type, 1.5 mm.; elytra black, shining; pronotum black; rugose space slightly reddish; anterior margin with four teeth; front with short shining line; elytra nearly glabrous except on declivity, stria punctures moderately coarse, closely placed. Brownsville, Tex., March 23; C. H. T. Townsend, collector. Type, Cat. No. 7378, U. S. National Museum.

Stephanoderes virentis, new species.

Length, female type, 1.3 mm.; elytra dark brown, declivity opaque; pronotum reddish brown, lateral area shining, distinctly punctured, anterior margin with four equal and two smaller teeth; front with median shining line; elytral striæ impressed, punctures coarse, impressed. Lakeland, Fla., in dead twigs of *Quercus* sp.; author, collector; Hopk. U. S. No. 2711d. Type, Cat. No. 7558, U. S. National Museum.

Stephanoderes pecanis, new species.

Length, female type, 1.3 mm.; uniform brown, shining; pronotal rugose space slightly darker, lateral area shining, punctured, anterior margin with four small equal teeth; front opaque, with median shining line; elytral striæ impressed, punctures moderately coarse. Orlando, Fla., reared from pecan, March 15, 1908; H. M. Russell, collector. Type, Cat. No. 7360, U. S. National Museum.

Stephanoderes approximatus, new species.

Length, female type, 1.4 mm.: reddish brown, elytra shining; pronotum with rugose space reddish, lateral area shining and subimbricate, anterior margin with four equal and two very small teeth; front convex, anterior area shining, with median line posteriorly sulcate; elytral striæ faintly impressed, punctures small, closely placed. Columbus, Tex., July 6; Hubbard and Schwarz collection. Type, Cat. No. 7381, U. S. National Museum.

Length, male, 1.05 mm.

Stephanoderes nitidipennis, new species.

Length, female type, 1.5 mm.: elytra black, shining; pronotum reddish, with rugose space darker, anterior margin with four equal and two smaller teeth; front convex, with median shining line, anterior area shining; elytral striæ faintly impressed toward base, distinctly impressed on declivity, punctures fine, interspaces of declivity with row of minute granules. Cayamas, Cuba, January 1; E. A. Schwarz, collector. Type, Cat. No. 7533, U. S. National Museum.

Stephanoderes nitidulus, new species.

Length, female type, 1.65 mm.; elytra black, shining; pronotum reddish brown, rugose space lighter reddish, anterior margin with four teeth; front opaque, with median shining line; elytral striæ faintly impressed, punctures fine, declivity subopaque, with interspaces very faintly granulated. Cayamas, Cuba, January 23; E. A. Schwarz, collector. Type, Cat. No. 7534, U. S. National Museum.

Stephanoderes ferrugineus, new species.

Length, female type, 1.7 mm.: elytra reddish brown, shining; pronotum lighter, rugose space slightly darker, anterior margin with four equal and two smaller teeth; front subopaque, anterior area shining; elytral striæ impressed; punctures small, irregular, closely placed, declivity subopaque, with interspaces smooth. Livingston, Guatemala, May 8; Barber and Schwarz, collectors. Type, Cat. No. 7535, U. S. National Museum.

Stephanoderes rufescens, new species.

Length, female type, 1.4 mm.; elytra and pronotum reddish; anterior margin of pronotum with three regular teeth and one smaller one; front opaque, convex, with distinct impressed median line; elytral striæ impressed, punctures moderately coarse, regular, becoming obscure on declivity, declivity oblique. Allegheny, Pa.; Hamilton collection. Type, Cat. No. 7527, U. S. National Museum.

Stephanoderes flavescens, new species.

Length, female type, 1.5 mm.: elytra light brown, shining; pronotum lighter, with rugose space dark, anterior margin with four regular and two smaller teeth; front convex, with median shining space, posteriorly sulcate; elytral striæ impressed, punctures moderately coarse, becoming obscure on declivity, declivity subopaque. Tallahassee, Fla., March 3; Hubbard and Schwarz collection. Type, Cat. No. 7536, U. S. National Museum.

Stephanoderes buscki, new species.

Length, female type, 1.5 mm.; elytra brown, subopaque; pronotum brown, with median rugose area reddish, anterior margin with four equal teeth and two middle ones closely placed; front convex, opaque, shining toward anterior margin and with impressed fine median line; elytral striæ impressed, punctures moderately coarse, becoming finer on declivity. Trinidad, West Indies, May 12; August Busck, collector. Type, Cat. No. 7537, U. S. National Museum.

Stephanoderes obliquus, new species.

Length, female type, 1.6 mm.; elytra dark brown, dorsal and lateral areas shining; pronotum lighter brown, opaque, anterior margin with four regular, closely placed teeth; front convex, with faint median impression; elytral striæ scarcely impressed, punctures fine, declivity with interspaces rugose. Cayamas, Cuba, March 12; E. A. Schwarz, collector. Type, Cat. No. 7538, U. S. National Museum.

Stephanoderes subopacicollis, new species.

Length, female type, 1.6 mm.; elytra black, shining; pronotum uniform dark brown, subopaque, anterior margin with four closely placed teeth and two smaller ones; front convex, opaque, with a median shining line; punctures of elytral striæ impressed, moderately coarse, interspaces faintly punctured, nearly smooth on declivity, declivity subopaque. Cayamas, Cuba, December 30; E. A. Schwarz, collector. Type, Cat. No. 7539, U. S. National Museum.

Stephanoderes opacipennis, new species.

Length, female type, 1.6 mm.; elytra black, opaque; punctures coarse, rugose; pronotum dark reddish brown, with four closely placed marginal teeth; front subopaque, with broad shining line, posteriorly impressed; elytral striæ impressed, rugose, becoming obscure on declivity, interspaces rugose. District of Columbia, May 30; Hubbard and Schwarz collection. Type, Cat. No. 7540, U. S. National Museum.

Stephanoderes quadridentatus, new species.

Length, female type, 1.65 mm.; elytra dark brown, shining; pronotum dark brown, opaque, with dorsal rugose space reddish, anterior margin with four closely placed teeth; front opaque, with narrow shining line, posteriorly sulcate; elytral striæ impressed, punctures very coarse, becoming smaller on declivity, interspaces of declivity faintly rugose. Morgantown, W. Va., in *Picea* sp., April 5, 1897; author, collector; Hopk. W. Va. No. 7237a. Type, Cat. No. 7383, U. S. National Museum.

Stephanoderes africanus, new species.

Length, female type, 1.65 mm.; dark reddish brown; elytra and pronotum shining, the pronotal rugose space subopaque, reddish, with two closely placed and two separated marginal teeth; front subopaque, with rather long reddish hairs. Capetown, South Africa, in apple; C. W. Mally, collector (No. 1226). Type, Cat. No. 7542, U. S. National Museum.

Stephanoderes obesus, new species.

Length, female type, 1.65 mm.; stout; elytra light brown; pronotum lighter, with four smaller marginal teeth; front shining, with short, sparse, erect pubescence. Cayamas, Cuba, March 11; E. A. Schwarz, collector (No. 476). Type, Cat. No. 7543, U. S. National Museum.

***Stephanoderes philippinensis*, new species.**

Length, female type, 1.7 mm.; dark brown, shining; elytra short, with apex broadly rounded; pronotum more than one-half as long as elytra, dorsal rugose space red; front shining, with sparse, irregular pubescence; elytral striae punctures moderately fine, irregular, more distinct toward the base. Angat, P. I., adults in twigs of "lobalog," June 30, 1903; J. L. Webb, collector (No. 65c). Type, Cat. No. 7544, U. S. National Museum.

***Stephanoderes brunneus*, new species.**

Length, female type, 1.35 mm.; body stout, dark brown, shining; pronotum with rugose space red, anterior margin with two widely separated teeth. Brownsville, Tex., May 22, 1904; H. S. Barber, collector. Type, Cat. No. 7545, U. S. National Museum.

***Stephanoderes frontalis*, new species.**

Length, female type, 1.4 mm.; yellowish; pronotum slightly darker, dorsal rugose space reddish brown, anterior margin with two apical teeth indistinctly separated. Brownsville, Tex., July; Wickham collection (No. 52). Type, Cat. No. 7384, U. S. National Museum.

***Stephanoderes perkinsi*, new species.**

Length, female type, 1.5 mm.; elongate; elytra black, with dorsal and lateral areas shining; pronotum reddish, rugose space red, apex obtuse; front convex, shining, with small median impression; elytral striae not impressed, obscure, punctures obscure, declivity steep, opaque, apex obtuse, clothed with brownish scales. Honolulu, Hawaii, in orange wood; D. L. Van Dine, collector. Type, Cat. No. 7594, U. S. National Museum.

***Stephanoderes tridentatus*, new species.**

Length, female type, 1.3 mm.; black, opaque; pronotum with rugose space dark red, with three small marginal teeth; front convex, subopaque. San Diego, Tex., May 19; Hubbard and Schwarz collection. Type, Cat. No. 7369, U. S. National Museum.

***Stephanoderes niger*, new species.**

Length, female type, 1.4 mm.; elytra black, subopaque; pronotum dark brown, with dorsal rugose space red, anterior margin with four teeth; front broad, shining, with longitudinal median impression; elytral declivity densely opaque, the apex rounded. Brownsville, Tex., March 23; C. H. T. Townsend, collector. Type, Cat. No. 7382, U. S. National Museum.

***Stephanoderes nitidifrons*, new species.**

Length, female type, 1.5 mm.; elytra dull yellowish; pronotum dark brown, opaque, anterior margin with three teeth, dorsal rugose space reddish; front convex, shining, with faint longitudinal impression; elytral striae deeply impressed, apex not broadly rounded, declivity opaque, with interspaces rugose. Tampico, Mexico, December 26; E. A. Schwarz, collector. Type, Cat. No. 7546, U. S. National Museum.

***Stephanoderes liberiensis*, new species.**

Length, female type, 2 mm.; stout, black; pronotum opaque, with dorsal rugose space red, anterior margin with four irregular teeth; front convex, opaque, faintly punctured, and with faint median line; elytra shining, nearly glabrous, striae punctures moderately fine, shallow, becoming coarser on lateral area, interspaces broad, flat, with irregular fine punctures, declivity oblique, interspaces with row of scales mixed with fine hairs. Mount Coffee, Liberia, West Africa, 1896; F. C. Straub, collector (O. F. Cook collection). Type, Cat. No. 7593, U. S. National Museum.

Stephanoderes puncticollis, new species.

Length, female type, 2.1 mm.; black; pronotum shining, with lateral area distinctly punctured, anterior margin with four closely placed teeth; front broad, subopaque, with median shining space, with a faint posterior impression; elytra with dorsal and lateral areas shining, declivity oblique, opaque. Tampico, Mexico; E. A. Schwarz, collector. Type, Cat. No. 7547, U. S. National Museum.

Stephanoderes glabripennis, new species.

Length, female type, 2.2 mm.; oblong, glabrous; pronotum dark brown; dorsal rugose area red, lateral area punctured, anterior margin with four teeth; front convex, shining, with faint median impression; declivity with interspace 2 impressed, flattened. Angat, P. I., in dead twigs of "lobalog," June 30, 1903; J. L. Webb, collector (No. 65). Type, Cat. No. 7548, U. S. National Museum.

Stephanoderes mallyi, new species.

Length, female type, 1.5 mm.; elongate; elytra black; pronotum brown, opaque; front convex, opaque, with median shining line, faintly impressed posteriorly; apex of elytra not broadly rounded, interspatial scales white. Capetown, South Africa; C. W. Mally, collector (No. 1226). Type, Cat. No. 7549, U. S. National Museum.

Stephanoderes quercus, new species.

Length, female type, 1.8 mm.; dark brown; pronotum with rugose space reddish; elytra shining; front subopaque, alutaceous, with median shining space; punctures of elytral striæ fine, becoming coarser on lateral area, finer on declivity. Berkeley, W. Va., in *Quercus prinus*, March 11, 1897; author, collector; Hopk. W. Va. No. 7190. Type, Cat. No. 7550, U. S. National Museum.

Stephanoderes sterculiae, new species.

Length, female type, 1.8 mm.; immature; elytra light yellowish; pronotum reddish brown, rugose space red; front subopaque, with anterior shining space and faint median elevation; elytral striæ impressed, except on lateral area, punctures fine, becoming coarser on lateral area, declivity oblique. Calapan, P. I., in dead twigs of *Sterculia* sp., June 19, 1903; J. L. Webb, collector (No. 36). Type, Cat. No. 7551, U. S. National Museum.

Stephanoderes psidii, new species.

Length, female type, 1.8 mm.; subelongate, stout, blackish; pronotum opaque, with rugose space red; front convex, subopaque, with median shining space; elytra with dorsal and lateral areas shining, declivity convex, moderately steep, opaque, granulate, interspatial scales dense. Calapan, P. I., in dead branch of *Psidium* sp., June 17, 1903; J. L. Webb, collector (No. 14a). Type, No. 7552, U. S. National Museum.

Stephanoderes cubensis, new species.

Length, female type, 1.8 mm.; elongate, moderately stout; pronotum reddish brown, rugose space narrow, reddish; front convex, opaque, sulcate, with narrow median line; elytra with sides straight to near declivity, striæ distinctly impressed, punctures closely placed, irregular, interspaces with fine irregular punctures; declivity steep, subopaque, interspatial scales dense. Cayamas, Cuba, February 4; E. A. Schwarz, collector. Type, Cat. No. 7553, U. S. National Museum.

Stephanoderes brunneicollis, new species.

Length, female type, 2.25 mm.; elongate, stout; elytra dark brown, shining, lateral area faintly punctured; pronotum uniformly brown, subopaque; front broad, subconvex, opaque, with broad median shining space; elytral striæ faintly impressed on dorsal area, becoming deeper on lateral area, punctures moderately coarse, becoming coarser on lateral area, declivity moderately steep, opaque. Round Mountain, Tex., in fig wood; U. S. Dept. of Agriculture No. 5696. Type, Cat. No. 7386, U. S. National Museum.

Genus PROCRYPHALUS, new genus.

Antennal funicle 4-jointed, joint 4 broader than 2 and closely jointed to base of club, which is oblong, elliptical, narrowed toward base, sides broadly rounded, faintly sinuate, anterior face with three straight sutures, posterior face without sutures; eyes oblong, not emarginate. Type of genus, *Procryphalus populi*, new species.

The sexes are equal or subequal in size.

- I. Pronotum with apex slightly produced, with posterior margin of rugose space rounded; fine scales of elytra not dense.
- A. Elytra with longer interspacial scales and smaller stria scales.
- Veta Pass, Colo. (*Cryphalus*) *mucronatus* Lec.
 Western Oregon, in *Acer* sp. *aceris*.
 Alta, Utah. *utahensis*.
 Kenai, Alaska. <(*Cryphalus*) *striatulus* Mann.>
- B. Elytra brown, scales yellowish red, longer scales in rows.
- Black Hills, S. Dak., in *Salix* sp. *salicis*.
- II. Pronotum with apex rather strongly produced; fine scales of elytra densely placed; posterior margin of rugose space nearly straight.
- Beaver Canyon, Idaho. *idahoensis*, page 34.
 Tercio, Colo., in *Populus tremuloides*. *populi*, page 34.

Procryphalus aceris, new species.

Length, female type, 1.55 mm.; body elongate, dark brown; pronotum darker and with four small equal teeth on apical margin and one or two small submarginal ones; front narrow, opaque, with longitudinal shining space narrowed posteriorly; elytral striæ with moderately coarse, very shallow punctures, more distinct on lateral area, obscure on declivity. Albany, Oreg., in *Acer* sp., April 28, 1899; author, collector; Hopk. U. S. No. 71. Type, Cat. No. 7389, U. S. National Museum.

Procryphalus utahensis, new species.

Length, female type, 1.7 mm.; body elongate, black; elytra shining; pronotum subopaque, with two long apical and two small subapical teeth, and four or five submarginal ones each side; front narrow, convex, with median shining space; elytra with punctures fine, shallow, in approximate rows. Alta, Utah, July 1; Hubbard and Schwarz collection (No. 1138). Type, Cat. No. 7391, U. S. National Museum.

Procryphalus salicis, new species.

Length, female type, 1.65 mm.; body elongate, light brown, elytra lighter; pronotum darker, with two small apical teeth and three gradually smaller submarginal ones each side; front narrow, shining, with median shining space and faint posterior impression; elytral striæ small, shallow, in obscure rows. Black Hills, S. Dak., in *Salix* sp., September 3, 1901; author, collector; Hopk. U. S. No. 453. Type, Cat. No. 7390, U. S. National Museum.

Procryphalus idahoensis, new species.

Length, female type, 2 mm.; body elongate, black, subopaque; pronotum with two rather prominent apical teeth and a row of two small marginal and two or three submarginal ones on each side; front narrow, shining, with longitudinal smooth space; elytral punctures shallow, moderately coarse, regular, elytral scales whitish. Beaver Canyon, Idaho, July 23; Hubbard and Schwarz collection (No. 678). Type, Cat. No. 7392, U. S. National Museum.

Procryphalus populi, new species.

(Pl. I, fig. 8.)

Length, female type, 2.15 mm.; dark brown, subopaque; pronotum with sides strongly rounded, with two prominent apical teeth and two or three small subapical ones; front oblong, shining, with faint median elevated line and without posterior elevation; elytral punctures moderately fine, irregular, elytral scales yellowish. Tercio, Colo., in *Populus tremuloides*, May 5, 1903; author, collector; Hopk. U. S. No. 2304g. Type, Cat. No. 7393, U. S. National Museum.

Male. Front with posterior elevation.

Genus ERNOPORIDES, new genus.

Antennal funicle 4-jointed, joint 4 slightly broader; club compressed, with side margins unequally rounded, with two obscure procurved sutures on anterior and scarcely evident ones on posterior face, suture 1 with a distinct oblique septum; eyes oblong-oval, not emarginate. Type of genus, *Ernoporides floridensis*, new species.

In the following species the sides of the pronotum are nearly parallel; anterior margin obtusely rounded, smooth to faintly granulate; rugosities small, sparse, not in concentric rows but extending toward sides; elytra with sparse, fine scales and rows of larger interspatial scales.

Elytral striæ obscure..... Division I.
Elytral striæ evident..... Division II.

DIVISION I.

Ernoporides knabi, new species.

(Pl. I, fig. 9.)

Length, female type, 1.2 mm.; body oblong, elliptical, brown; pronotum darker, the posterior dorsal and lateral areas shining and faintly punctured, anterior margin without serrations; front broad, flattened, shining, with faint median line; elytral punctures very fine, confused, striæ evident on declivity. Cordoba, Mexico, December 30, 1907; Frederick Knab, collector. Type, Cat. No. 7595, U. S. National Museum.

Ernoporides floridensis, new species.

Length, female type, 1.4 mm.; body oblong, elliptical, reddish brown; pronotum with the posterior dorsal and lateral areas smooth, shining, not evidently punctured, anterior margin with two small apical teeth; front shining, faintly punctured, and with median faintly elevated line; elytral punctures fine, confused. Biscayne, Fla., May 21; Hubbard and Schwarz collection. Type, Cat. No. 7394, U. S. National Museum.

DIVISION II.

Ernoporides jalappae Lentz.

Evidently this species comes in this genus, but it differs from the preceding two in the larger size, 1.6 mm., and the more evident elytral striæ. The collection contains a single specimen without antenna.

Genus ERNOPORUS Thomson.

Antennal funicle 4-jointed; club compressed, oval, narrowed toward base, sides evenly rounded and apex broadly rounded, three obscure straight sutures on anterior face and three obscure procurved sutures on posterior face, without septum; eyes oblong-oval, not emarginate.

- I. Pronotum slightly broader than long, rugosities moderately coarse but not in concentric rows.
- A. Pronotum with rugose space broad.
Germany, in *Fagus* sp. *fagi* Fab.
- B. Pronotum with rugose space narrow.
Europe, in linden *schreineri* Eichh.
Kanawha Station, W. Va., flying *kanawhae*.
- II. Pronotum distinctly broader than long, rugose space narrow, rugosities very coarse and in concentric rows.
Europe, in *Tiliae* sp. *tiliae* Panz. (Pl. I, fig. 10.)

Ernoporus kanawhae, new species.

Length, female type, 1.65 mm.; body oblong, moderately stout, dark brown; pronotum slightly broader than long, sides slightly rounded from base to apex, rugosities moderately coarse and not in concentric rows, posterior dorsal and lateral areas shining, faintly rugose, and with four apical teeth; front short, broad, faintly impressed; elytra with fine scales and coarser, longer interspatial scales, especially on the declivity, striæ obscure, with fine punctures, interspaces faintly rugose toward base, declivity evenly convex, without evident striæ. Kanawha Station, W. Va., April 15, 1891; author, collector; Hopk. W. Va. No. 4768. Type, Cat. No. 7396, U. S. National Museum.

NOTE.—Allied to *E. schreineri* Eichh., of Europe, but differing in its larger size and in having the posterior dorsal and lateral areas of the pronotum more shining.

Genus STEPHANORHOPALUS, new genus.

Antennal funicle 4-jointed, joint 4 narrow; club thinly compressed, side margins subequally rounded, densely fringed with exceedingly fine hairs, apex broadly rounded, strongly narrowed toward base, anterior face shining, sparsely pubescent, posterior face nearly glabrous, shining, without sutures; eyes very large, elliptical, not emarginate. Type of genus, *Stephanorhopalus nulodori*, new species.

NOTE.—The thinly compressed antennal club and the armed posterior margin of the seventh abdominal sternite are characters which distinguish this genus from all other Scolytidæ. The male is not smaller than the female.

Stephanorhopalus nulodori, new species.

(Pl. I, fig. 11.)

Length, male type, 1.15 mm.; body short elliptical, light yellowish-brown; pronotum darker, glabrous, slightly broader than long, with sides rounded from base to apex, the rugosities confined to the apex of the median area and in three concentric rows, apical margin faintly produced, with four small teeth; head small, front convex, shining; elytra shining, glabrous toward base, vertex and declivity with rows of erect yellow scales, striæ not impressed, obscure but with faint shallow punctures, interspaces obscure, smooth, declivity steep, evenly convex, apex rounded. Sexual characters: Male with apex of seventh abdominal sternite armed with four rather prominent teeth; female, apex of abdominal sternite broadly rounded, front opaque and faintly punctured. Calapan, P. I., in bark of dead twigs of *Nulodorum fulgens*, June 22, 1903; J. L. Webb collector (No. 47), Type, Cat. No. 7600, U. S. National Museum.

Genus TRYPOPHLOEUS Fairmaire.

Antennal funicle 5-jointed, joint 5 broad; club compressed, elongate oval, with three nearly straight sutures, distinct on anterior face and obscure or absent on posterior face; eyes short oval, narrowly emarginate. Males not smaller than females. Elytral declivity with or without secondary sexual characters.

I. Pronotum and elytra of equal width, and elytral striæ obscure on dorsal area.

A. Elytra with fine scales and rows of much coarser ones.

Del Monte, Cal., in *Salix* sp. *salicis*.

Easton, Wash. *centralis*.

Europe, in *Populus tremuloides*. *binodulus* Ratz. (Pl. I, fig. 12.)

B. Elytra with densely placed, fine scales but without rows of interspacial ones.

Williams, Ariz., in *Populus tremuloides*. *populi*, page 37.

II. Pronotum slightly narrower than elytra; elytral striæ distinct and punctured on dorsal area.

Europe, in *Alnus* sp. *<alni Lind.>*

Alta, Utah *punctipennis*, page 37.

Europe, in *Populus alba*. *granulatus* Ratz.

Trypophloeus salicis, new species.

Length, female type, 1.7 mm.; body oblong, dark brown; pronotum darker, short, sides rounded from base to apex, anterior margin slightly produced, with four equal apical teeth and two smaller ones, anterior rugosities in irregular rows; front oblong, flattened, subopaque, with anterior shining space; elytral declivity oblique, without granules, with apex not broadly rounded. Del Monte, Cal., in *Salix* sp., September 4, 1902; author, collector; Hopk. U. S. No. 1092. Type, Cat. No. 7395, U. S. National Museum.

Male without distinctive characters.

Trypophloeus centralis, new species.

Length, male type, 1.8 mm.; body oblong, moderately stout, dark brown; anterior margin of pronotum produced, with twelve marginal teeth decreasing in size from the three apical ones, and with a broad space between the apical margin and rugose area, anterior rugosities closely placed and in a regular row, the succeeding ones in approximate rows; front subopaque, with broad median shining impression; elytral declivity with granules, interspaces with fine granules, striæ evident. Easton, Wash.; A. Koebele, collector. Type, Cat. No. 7398, U. S. National Museum.

NOTE: *Trypophloeus binodulus* Ratz. is more nearly allied to the preceding species, forming a subdivision characterized by the elytra having fine short scales and rows of much coarser interspacial ones. It differs from *T. populi*, which has the elytra with densely placed, fine scales but without rows of interspacial ones.

***Trypophloeus populi*, new species.**

Length, female type. 2.05 mm.; brown, oblong; anterior margin of pronotum scarcely produced, with four marginal teeth, two median ones much longer and closely placed, rugosities confused or in subconcentric rows; front broad, subopaque, with faint median elevation; elytral declivity slightly impressed, without granules. Williams, Ariz., in *Populus tremuloides*; E. A. Schwarz, collector. Type. Cat. No. 7397, U. S. National Museum.

The male has not been recognized.

***Trypophloeus punctipennis*, new species.**

Length, female type. 1.95 mm.; body brown, oblong; anterior margin of the pronotum with eight small teeth, decreasing in size from two median ones, rugosities small and confused; elytra shining, with striæ distinct on dorsal area, becoming closer and distinctly impressed on lateral area, but obscure on declivity, which is convex, shining, punctures in rows. Alta. Utah, June 30; E. A. Schwarz, collector. Type. Cat. No. 7399, U. S. National Museum.

NOTE: This species is allied to *T. alni* Lind. and *T. granulatus* Eichh. of Europe, which form the second division of the genus, characterized by having the pronotum slightly narrower than the elytra and the elytral striæ distinct and punctured on the dorsal area.

Genus MARGADILLIUS, new genus.

Antennal funicle 3-jointed, joint 3 narrow; club compressed, broad, sides and apex broadly rounded, anterior face with three procurved sutures, posterior face with two broadly procurved sutures, without septa; pronotum slightly broader than long, apical margin broadly rounded and faintly serrate; eyes short, elliptical, acutely emarginate. Type of genus, *Margadillius margadilaonis*, new species.

I. Elytra with fine and coarse scales; pronotum with fine scales.

Pagbilao, P. I., in a tree popularly called tucuen *minutus*.

Calapan, P. I., in *Erythrina indica* *erythrinae*, page 38.

II. Elytra with fine scales and long hairs; pronotum with hairs.

Pronotal rugosities fine, closely placed, not in concentric rows on dorsal area.

Pagbilao, P. I., in "tucuen" *confusus*, page 38.

Pronotal rugosities coarse, sparse, and in concentric rows on dorsal area.

Pagbilao, P. I., in a tree popularly called margadilao. *margadilaonis*, page 38.

***Margadillius minutus*, new species.**

Length, female type. 0.9 mm.; light brown; body short, elliptical; anterior margin of pronotum with six teeth, becoming smaller from the two apical ones, rugosities small, sparse, confused, extending into the posterior dorsal area and toward the side; front opaque, with posterior shining space; elytra densely clothed with exceedingly fine scales and sparsely placed coarse ones in approximate rows, elytral striæ and interspaces obscure, declivity oblique, subconvex, shining. Pagbilao, P. I., in

"tucuen" tree, July 30, 1903; J. L. Webb, collector (No. 79). Type, Cat. No. 7621, U. S. National Museum.

Margadillius erythrinae, new species.

Length, female type, 1.3 mm.; body short, stout, brown; pronotum with six equal, rather broad marginal teeth; head with front broad, flat, subopaque; elytra opaque. Calapan, P. I., in *Erythrina indica*, June 22, 1903; J. L. Webb, collector (No. 45y). Type, Cat. No. 7622, U. S. National Museum.

Margadillius confusus, new species.

Length, female type, 1.65 mm.; body short, elliptical, light brown; anterior margin of pronotum with six teeth decreasing from the two middle ones, posterior dorsal area finely rugose to base, lateral area faintly rugose; front narrow, faintly sulcate, with posterior median line; elytra with base faintly margined, declivity oblique, apex broadly rounded. Pagbilao, P. I., in "tucuen," in dead branch of small living tree, July 30, 1903; J. L. Webb, collector (No. 79b). Type, Cat. No. 7623, U. S. National Museum.

Margadillius margadilaonis, new species.

(Pl. I, fig. 13.)

Length, female type, 1.4 mm.; body short, elliptical, shining, light brown; pronotum slightly darker, with sides rounded from base to apex, sides and anterior margin with long erect hairs and anterior margin with five or six short, broad rugosities, rugosities moderately coarse, forming a triangular space, posterior dorsal and lateral areas smooth and punctured more densely on the dorsal area; front broad, convex, opaque, finely punctured; elytra with base simple, clothed with very fine short scales and sparsely placed, long, erect hairs in approximate rows, without evident striæ, declivity evenly convex, rather steep, apex obtuse. Pagbilao, P. I., in "margadilao" log, August 4, 1903; J. L. Webb, collector (No. 95a). Type, Cat. No. 7601, U. S. National Museum.

Genus ERICRYPHALUS, new genus.

Antennal funicle 4-jointed, joint 4 slightly broader; club compressed, broad, side margins equally rounded and sinuate, anterior face with three straight sutures and one procurved one, posterior face with three broadly procurved sutures, without septa; pronotum with apical margin broadly rounded and with apical teeth; eyes short, broad, emarginate. Type of genus, *Ericryphalus henschawi*, new species.

Ericryphalus henschawi, new species.

(Pl. I, fig. 17.)

Length, female type, 1.3 mm.; body short, stout, elliptical, brown; pronotum slightly darker, sparsely clothed with fine erect hairs, rugosities fine, sparse, rugose area with fine longitudinal line from apex to posterior margin, apical margin with a few obscure granules, posterior dorsal and lateral areas opaque, alutaceous; front convex, shining, with median shining line; elytra clothed with very fine short scales and sparsely placed longer scales in approximate rows, striæ and interspaces obscure, declivity oblique, subconvex, striæ faintly evident, apex obtusely rounded. Hilo, Hawaii; H. W. Henshaw, collector. Type, Cat. No. 7602, U. S. National Museum.

Genus *PIPERIUS*, new genus.

Antennal funicle 4-jointed, joints 3 and 4 of equal width and narrower than 2; club oblong, elliptical, base oblique, sides faintly sinuate, apex rounded, with four straight sutures on anterior face and three broadly procurved sutures on posterior face, the first discontinuous, without septa; eyes short, elliptical, emarginate. Type of genus, *Piperius pini*, new species.

Piperius pini, new species.

(Pl. I, fig. 18.)

Length, female type, 1.15 mm.; body oblong, elliptical, light brown: pronotum with fine, short, erect pubescence, anterior margin with four minute teeth, rugosities fine, sparse, approximately concentric, the space acuminate into posterior dorsal area, not extending to lateral area, posterior dorsal and lateral areas opaque, alutaceous; front convex, shining, faintly rugose; elytra shining, clothed with very fine, short scales and sparsely placed longer ones in approximate rows, longer on the declivity, striae faintly evident on the dorsal area, declivity convex, without striae, apex obtusely rounded. No sexual differences observed. Baguio, P. I., in *Pinus insularis*, October 4, 1911; C. V. Piper, collector. Type, Cat. No. 7603, U. S. National Museum.

Genus *CRYPHALUS* Erichson.

Antennal funicle 4-jointed, joint 4 broader; club compressed, broad, with sides equally rounded, sinuate, apex broadly rounded, with three slightly recurved sutures on anterior face and three broadly procurved sutures on posterior face; eyes short, oval, narrowly but distinctly emarginate. The male is slightly smaller than the female and its front is narrower.

NOTE.—The group of genera to which this genus belongs is characterized by the obscure to absent striae of the elytra and the presence of basal and lateral margins on the pronotum; the genera immediately allied to it are characterized by the broad emarginate third joint of the anterior tarsus and by the emarginate eyes. *Cryphalus*, as here designated and restricted, stands out distinct from the other genera of the subfamily, and there seems to be no excuse whatever for including so many of the genera under this name, as has been done in Hagedorn's Catalogue.

I. Elytra with fine, densely placed scales and sparse, erect, interspacial hairs.

A. Interspacial hairs long.

- | | |
|---|-----------------------------------|
| Italy | <i>numidicus</i> Eichh. |
| Europe, in <i>Abies</i> and <i>Picea</i> | <i>piceae</i> Ratz. |
| Port Williams, Wash., in <i>Abies grandis</i> | <i>pubescens</i> , page 40. |
| Astoria, Oreg | <i>subconcentralis</i> , page 40. |

(B. Interspacial hairs short, sparse.

- | | |
|--|--|
| West Virginia, in <i>Picea rubens</i> | <i>rubentis</i> , page 40. |
| Alta, Utah | <i>ruficollis</i> , page 40. |
| Pisgah Ridge, N. C., in <i>Abies fraseri</i> | <i>fraseri</i> , page 40. |
| Europe, in <i>Picea</i> and <i>Abies</i> | <i>asperatus</i> Gyll. (Pl. I, fig. 19.) |

II. Elytra with fine, densely placed scales but without interspatial hairs.

- Idaho, in *Abies grandis* *approximatus*, page 41.
 Europe, in *Abies* and *Picea* *abietis* Ratz.
 Camp Caribou, Maine, in *Abies balsamea* *balsameus*, page 41.

***Cryphalus pubescens*, new species.**

Length, female type, 1.9 mm.; body oblong, elliptical, brown, pronotum and head slightly darker; pronotum broader than long, rounded from base to apex, anterior margin with two apical teeth and two or three obscure marginal ones, rugosities moderately coarse, confused and extending toward base; front broad, with anterior area shining, posterior and lateral areas punctured; elytral striæ evident, with punctures very faint, declivity convex, steep, apex obtusely rounded. Port Williams, Wash., in *Abies grandis*, May 17, 1899; author, collector; Hopk. U. S. No. 162a. Type, Cat. No. 7405, U. S. National Museum.

Length, male, 1.7 mm.

NOTE.—This species is allied to *C. picea* Ratz. and *C. numidicus* Eichh.

***Cryphalus subconcentralis*, new species.**

Length, female type, 1.85 mm.; body oblong, elliptical, reddish brown; anterior margin of pronotum with three or four contiguous teeth, rugose space more reddish, and rugosities in approximate concentric rows, especially posteriorly; front convex, anterior area shining, posterior and lateral areas punctured; elytral striæ scarcely evident except toward suture, declivity convex, apex broadly rounded. Astoria, Oreg., May 24; Hubbard and Schwarz collection (No. 2019 female). Type, Cat. No. 7596, U. S. National Museum.

***Cryphalus rubentis*, new species.**

Length, female type, 1.8 mm.; body oblong, elliptical, dull reddish brown; pronotum and head darker, anterior margin with four short, equal teeth, pronotal rugosities coarse, sparse, confused; front flattened, with median shining line, posterior and lateral areas faintly punctured; elytral striæ faintly evident on dorsal area. Pocahontas County, W. Va., in *Picea rubens*, May 6, 1893; author, collector; Hopk. W. Va. No. 6258. Type, Cat. No. 7404, U. S. National Museum.

Length, male, 1.65 mm.

***Cryphalus ruficollis*, new species.**

Length, female type, 1.85 mm.; body suboblong, elliptical, dark brown; pronotum with rugose space reddish, anterior margin with four or five closely placed teeth, rugosities coarse, sparse, confused; front faintly transversely impressed, with median shining line and space, posterior and lateral punctures distinct; elytral striæ distinct, faintly impressed on the median and lateral areas, declivity oblique, with striæ scarcely evident, apex not broadly rounded. Alta, Utah, June 29; Hubbard and Schwarz collection. Type, Cat. No. 7403, U. S. National Museum.

***Cryphalus fraseri*, new species.**

Length, female type, 1.95 mm.; body oblong, rather stout, dark brown, elytra dull reddish brown; pronotum darker, anterior margin with five short teeth, pronotal rugosities moderately coarse, confused; front convex, subopaque, with transverse, bisinuate, shining line; elytral striæ faintly evident, declivity convex, apex not broadly rounded. Pisgah Ridge, N. C., in *Abies fraseri*, September 24, 1903; W. F. Fiske, collector; Hopk. U. S. No. 1761d. Type, Cat. No. 7402, U. S. National Museum.

Length, male, 1.85 mm.

NOTE.—This species is allied to *C. asperatus* Gyll.

Cryphalus approximatus, new species.

Length, female type, 1.72 mm.; body elliptical, dark brown, opaque; pronotum with rugose space lighter, anterior margin with four nearly equal and two smaller teeth, pronotal rugosities moderately coarse, sparse, confused, extending nearly to the base; front convex, with anterior area shining; elytral striæ scarcely evident. Sand Point, Idaho, in *Abies grandis*, June 2, 1899; author, collector; Hopk. U. S. No. 224. Type, Cat. No. 7400, U. S. National Museum.

Length, male, 1.3 mm.

Cryphalus balsameus, new species.

Length, female type, 1.9 mm.; body elliptical, reddish brown; anterior margin of pronotum with four subcontiguous, broad teeth and two smaller ones; rugosities sparse, confused, not extending to base; front broad, subopaque, flattened, with anterior median, broad, elevated line; elytral striæ evident and faintly impressed toward base. Camp Caribou, Me., in *Abies balsamea*, May 27, 1900; author, collector; Hopk. U. S. No. 313a. Type, Cat. No. 7401, U. S. National Museum.

Length, male, 1.65 mm.

NOTE.—The color varies from reddish brown to nearly black. This and preceding species are allied to *C. abietis* Ratz.

Genus HYPOCRYPHALUS, new genus.

Antennal funicle 5-jointed, joint 5 much broader; club compressed, broadly oval, slightly narrowed toward base, sides equally rounded and faintly sinuate, anterior face with three nearly straight sutures, posterior face with three broadly procurved sutures, without septa; pronotum with basal margin extending around basal angle but not the apical margin, which is broadly rounded, with few apical serrations; eyes small, nearly round, scarcely emarginate. The males are smaller; the apex of the pronotum is more produced and the head smaller than in the female. Type of genus, *Hypocryphalus rotundus*, new species.

I. Pronotum with apical margin rounded; elytra without striæ. Pagbilao,

P. I., in *Dipterocarpus grandiflorus* *rotundus*.

II. Pronotum with apical margin produced; elytral striæ evident.

Apical margin of pronotum slightly produced; elytral striæ faint.

Calapan, Mindoro, P. I., in *Cacao silvestre* *obscurus*, page 42.

Apical margin of pronotum distinctly produced; elytral striæ distinct.

Calapan, P. I., in *Parinarium* sp. *striatus*, page 42.

Hypocryphalus rotundus, new species.

(Pl. I, fig. 20.)

Length, female type, 1.65 mm.; body short, elliptical, light brown; pronotum lighter, slightly broader than long, clothed with fine erect pubescence, rugosities fine, in subconcentric rows, extending toward sides but not beyond the median dorsal area, apical margin with four rather broad teeth, posterior dorsal and lateral areas opaque, alutaceous; head moderately large, front convex, shining, punctured; elytra shining, clothed with very fine scales, and with sparsely placèd, coarse ones in approximate rows from base to apex, longer on declivity, striæ obscure, declivity oblique, subconvex, opaque, without striæ or interspaces. Pagbilao, P. I., in log of *Dipterocarpus grandiflorus*, August 7, 1903; J. L. Webb, collector (No. 94f). Type, Cat. No. 7604, U. S. National Museum.

Hypocryphalus obscurus, new species.

Length, female type, 1.25 mm.; body short, suboval, reddish brown; pronotum scarcely broader than long, clothed with short pubescence, rugosities fine, confused, extending toward sides, apex slightly produced and armed with six or eight teeth; head with front convex, with median shining spot, the remaining surface alutaceous; elytra with apex retuse, declivity oblique, with faintly evident striæ. Calapan, P. I., in *Cacao silvestre*, June 16, 1903; J. L. Webb, collector (No. 10). Type, Cat. No. 7605, U. S. National Museum.

Length, male, 1.15 mm.

Hypocryphalus striatus, new species.

Length, female type, 1.5 mm.; body short, elliptical, light brown; pronotum sparsely pubescent, rugosities fine, confused, not extending into posterior dorsal area, apical margin rather strongly produced, with six or eight serrations; elytral interspaces densely clothed with exceedingly fine scales and with longer, stout hairs in approximate rows, becoming obsolete toward base, striæ faint, very narrow and shining, but scarcely impressed except toward side margins and on declivity, declivity oblique, convex, with striæ slightly impressed, apex obtuse. Calapan, P. I., in *Parinarium* sp., June 16, 1903; J. L. Webb, collector (No. 12). Type, Cat. No. 7606, U. S. National Museum.

NOTE: The front is obscure in the type.

Genus DACRYPHALUS, new genus.

Antennal funicle 5-jointed, joint 5 short and much broader; club compressed, broad, with side margins subequally rounded, not sinuate, anterior face with three procurved sutures, and posterior face with two broadly procurved sutures, without septa; pronotum with apical margin rounded and serrate; eyes short, elliptical, emarginate. Type of genus, *Dacryphalus obesus*, new species.

Dacryphalus obesus, new species.

(Pl. II, fig. 21.)

Length, female type, 1.75 mm.; body short, stout, light brown; pronotum much broader than long, with sides broadly rounded from base to apex, sparsely pubescent, rugosities moderately coarse, confused, converging and extending toward base, apical margin with four short, broad, equal, and four smaller teeth, posterior dorsal area short, lateral area broader, both subalutaceous; front broad, flattened, opaque, with recurved posterior rows of coarse punctures; elytra with base faintly margined, lateral margin faintly rounded from base to apex, apex broadly rounded, not retuse, densely clothed with fine, short scales and with numerous rather long, erect, stout hairs in approximate rows from base to apex, striæ faintly impressed but without distinct punctures, declivity with striæ distinctly impressed, interspaces slightly convex. Pagbilao, P. I., in "margadilao" log, August 4, 1903; J. L. Webb, collector (No. 95c). Type, Cat. No. 7607, U. S. National Museum.

Genus XYLOCLEPTES Ferrari.

Antennal funicle 5-jointed, joint 5 broad; club compressed, broad, strongly narrowed toward base and apex broadly rounded, with one or two obscure to distinct sutures on anterior face and with or

without one or two broad, strongly procurved, subapical sutures on posterior face; eyes short, elliptical, emarginate.

I. Antennal club with sutures obscure.

A. Elytral declivity flat, with interspace 1 not elevated in females, flat or broadly impressed; interspace 1 elevated in males.

a1. Elytral punctures distinct and in approximate rows.

b1. Pronotum with sides not strongly rounded toward base.

Biscayne Bay, Fla *floridensis*.

Biscayne, Fla., in *Anona* sp *anona*.

b2. Pronotum with sides strongly rounded toward base.

Elytra with short white hairs.

Pomona, Cal *californicus*, page 44.

Elytra with long whitish hairs.

Utah, in *Cucurbita* sp *<cucurbitae* Lec. >

a2. Elytral punctures obscure; pronotum strongly narrowed toward base.

Ventura County, Cal., in wild cucumber vine *venturina* page 44.

B. Elytral declivity with interspace 1 elevated in both sexes.

a3. Pronotum not narrowed toward base.

Elytral declivity with punctures.

Elytral punctures confused.

Cuba *carbonarius* Ferr.

Elytral punctures in approximate rows.

Cuba *limbatus* Bland.

a4. Pronotum distinctly narrowed toward base, declivity without punctures.

Elytral punctures confused.

Germany *coryli* Perris.

II. Antennal club with sutures distinct.

C. Elytral declivity unarmed.

a5. Pronotum with sides not broadly rounded; elytral punctures fine.

Guatemala *guatemalensis*, page 44.

a6. Pronotum with sides broadly rounded; elytral punctures coarse.

Mesilla, N. Mex., in *Cucurbita perennis* *punctatus*, page 44.

Ashland, Kans., in wild gourd vine *knausi*, page 44.

D. Elytral declivity armed.

Europe *bispinus* Duft. (Pl. II, fig. 27.)

***Xylocleptes floridensis*, new species.**

Length, female type, 1.5 mm.; body oblong-elliptical, ferruginous, pronotum darker; front convex, moderately shining, sparsely pubescent; elytra shining, with stria punctures coarse, and in evident rows on dorsal area, confused on lateral area, declivity steep, flat, with interspace 1 scarcely elevated, stria punctures distinct. Biscayne Bay, Fla., May 17; Hubbard and Schwarz collection. Type, Cat. No. 7608, U. S. National Museum.

***Xylocleptes anona*, new species.**

Length, female type, 1.8 mm.; body oblong-elliptical; elytra dark reddish-brown, pronotum darker; front broad, flat, finely rugose, with faint median line, pubescence sparse; elytra shining, with stria punctures in evident rows on dorsal area but not coarse, interspaces with irregular, fine punctures, becoming equal and confused, with stria punctures on lateral area, declivity steep, flat, with first interspace not elevated, stria punctures coarse. Florida, in *Anona* sp., May 14; E. A. Schwarz, collector. Type, Cat. No. 7609, U. S. National Museum.

The front of the male is flat, shining, faintly rugose, declivity broadly retuse, and interspace 1 slightly elevated.

***Xylocleptes californicus*, new species.**

Length, female type, 1.75 mm.; body oblong-elliptical, piceous, with longer whitish hairs on declivity; front narrow, faintly rugose, with broken median line; elytra shining, strial punctures coarse, and in distinct rows on dorsal area, interspaces with a few irregular punctures, small and coarse punctures confused on lateral area, declivity steep, flat, first interspace not elevated, striæ not impressed, punctures distinct, not coarse. Pomona, Cal.; Hubbard and Schwarz collection. Type, Cat. No. 7610, U. S. National Museum.

NOTE.—This specimen was compared with the type of *X. cucurbitae* and found to be different in size and other characters. The front of the male is broad, concave, smooth, and shining, with a median tubercle on the posterior margin; the elytral hairs are longer; the declivity is not broadly impressed but interspace 1 is slightly elevated.

***Xylocleptes venturina*, new species.**

Length, female type, 1.95 mm.; body oblong-elliptical, black; front narrow, flat, opaque, with broken elevated line; elytra coarsely rugose toward base, strial punctures fine, obscure, confused, with fine interspatial rugosities, declivity steep, flat, subopaque, with short yellow hairs, longer on the lateral angles and apex, interspace 1 not elevated, rugosely punctured, strial punctures in rows. Ventura County, Cal., in wild cucumber vine, June 1, 1904; author, collector; Hopk. U. S. No. 2764. Type, Cat. No. 7611, U. S. National Museum.

Length, male, 1.85 mm.; front broad, concave, shining; declivity flat, shining, with long, erect, yellow hairs.

***Xylocleptes guatemalensis*, new species.**

Length, male type, 1.65 mm.; body oblong-elliptical, piceous; pronotum with anterior third reddish, as broad as long, sides narrowed from base toward anterior margin; elytra shining, with short, erect, reddish hairs on declivity, striæ obscure, but in approximate rows on dorsal area, confused on lateral area, interspaces rugose toward base on dorsal area, declivity steep, shining, interspace 1 slightly elevated, 2 broadly impressed, strial punctures fine, obscure; head missing; antenna and tibia mounted in balsam. Panzos, Guatemala, April; Schwarz and Barber, collectors. Type, Cat. No. 7612, U. S. National Museum.

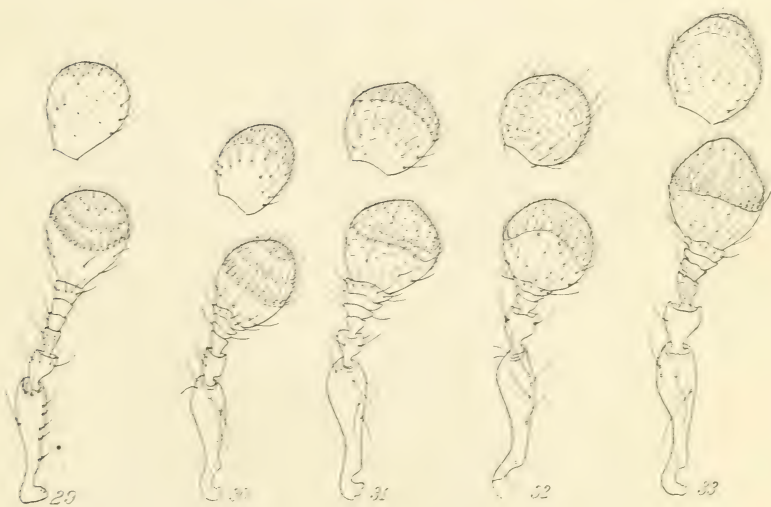
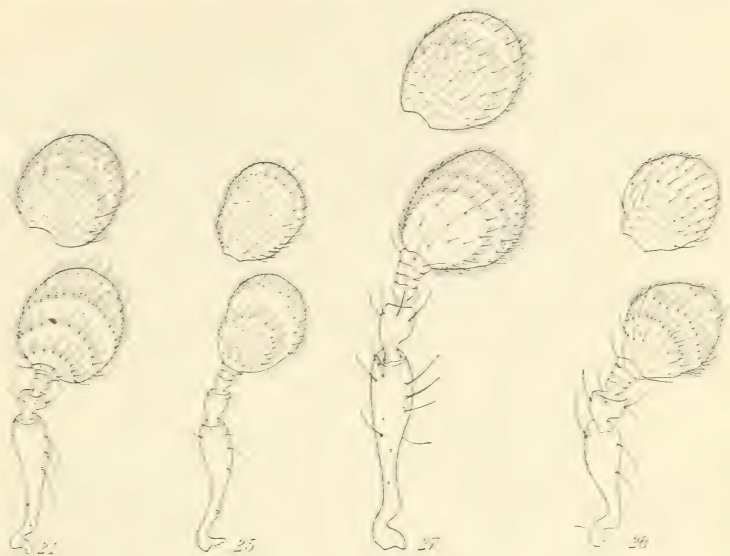
***Xylocleptes punctatus*, new species.**

Length, female type, 2.05 mm.; body oblong-elliptical; elytra piceous, shining; pronotum lighter, reddish; front flat, subopaque, evenly rugose, with faint anterior elevated line; elytral striæ with punctures coarse, irregular, interspatial punctures moderately coarse, both in approximate rows on dorsal area, declivity steep, broadly impressed, interspace 1 elevated, stria 1 impressed, with very coarse punctures, stria 2 with fine punctures. Mesilla, N. Mex., in dead *Cucurbita perennis*, March 18; T. D. A. Cockerell, collector. Type, Cat. No. 7421, U. S. National Museum.

Length, male type, 2.3 mm.; front broad, flat, shining, with posterior elevations; declivity broadly and deeply impressed, interspace 1 slightly elevated, faintly rugose, elytral pubescence long, yellowish.

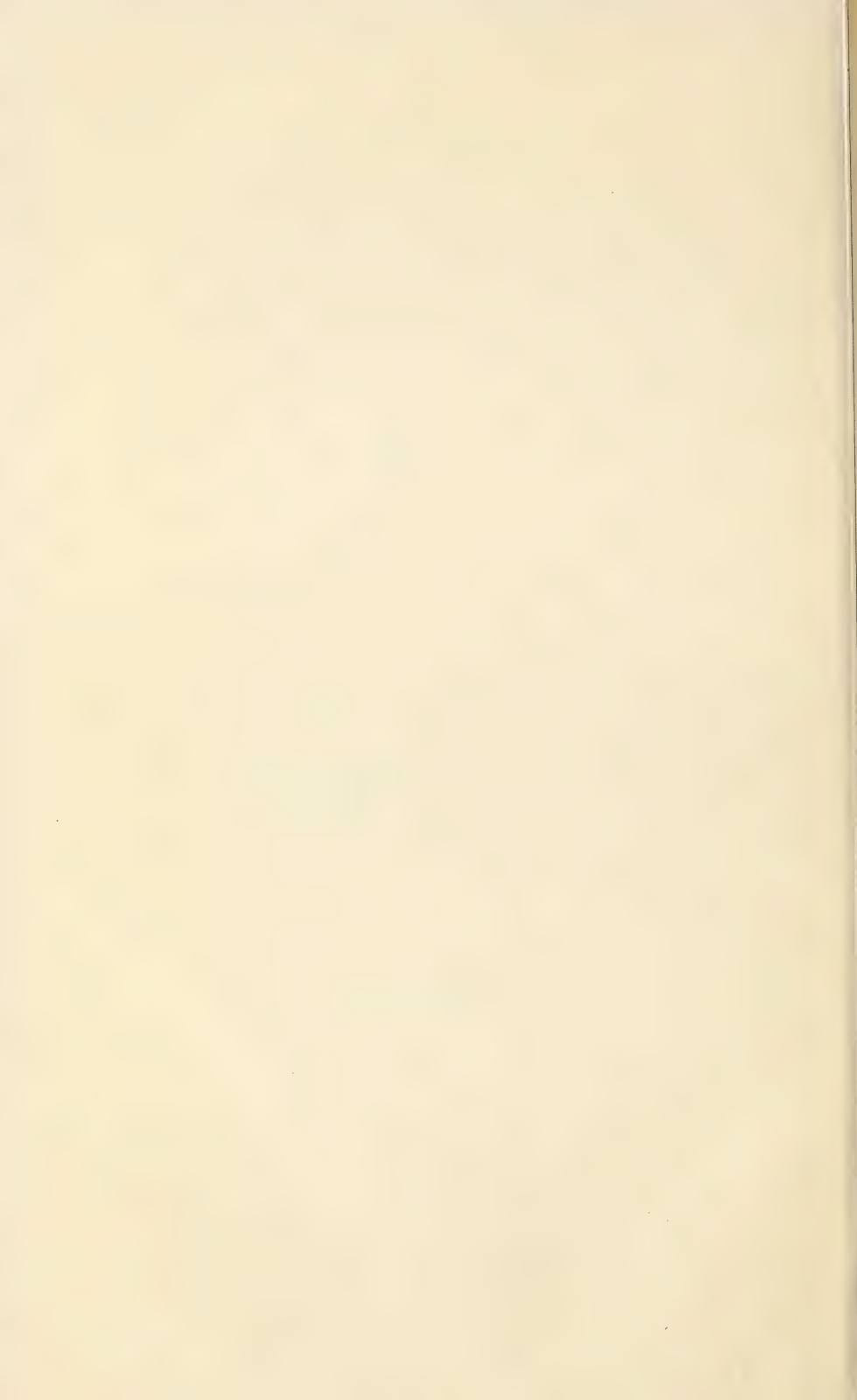
***Xylocleptes knausi*, new species.**

Length, female type, 2.6 mm.; body oblong-elliptical, uniform dark reddish; elytra clothed with long erect hairs from base to apex, longer on lateral margin, striæ moderately distinct, punctures coarse and irregular, interspatial punctures subequal in size and closely placed, becoming equal and confused on lateral area, declivity



TYPICAL ANTENNÆ OF GENERA OF THE CRYPHALINÆ.

FIG. 24.—*Dacryphalus obesus*. FIG. 25.—(*Xylocleptes*) *Lymantor decipiens*. FIG. 27.—*Xylocleptes bispinus*. FIG. 28.—*Taphrorychus bicolor*. FIG. 29.—*Thamnurgus euphorbiae*. FIG. 30.—*Thamnurgides persicae*. FIG. 31.—*Coccotrypes dactyliperda*. FIG. 32.—*Carposinus pini*. FIG. 33.—*Spermatophyes rhizophorae*. (Original.) The posterior face of the club is shown at the left above each figure of the antenna.



steep, broadly not deeply impressed, shining, stria 1 impressed but punctures not coarser than in stria 2, interspaces 2 and 3 with row of punctures. Ashland, Kans., in wild gourd vine, June 8, 1908; W. Knaus, collector; Hopk. U. S. No. 8210. Type, Cat. No. 7613, U. S. National Museum.

Front of type obscure but of another female subconvex, rugosely punctured, with faint median line and with short, sparse pubescence. The male has not been recognized.

NOTE.—The author has examined all of the species mentioned in the table. It is evident that some of the other species heretofore referred to *Dryocoetes* belong in Division I of *Xylocleptes*.

Genus THAMNURGIDES, new genus.

Antennal funicle 5-jointed, joint 5 very broad; club with three nearly straight sutures on anterior face and two procurved ones on posterior face; eyes small, elliptical, faintly emarginate. Type of genus, *Thamnurgides persicae*, new species.

***Thamnurgides persicae*, new species.**

(Pl. II, fig. 30.)

Length, female type, 1.7 mm.; body suboval, shining; elytra dark red; pronotum black, sparsely clothed with erect yellow hairs, faintly and sparsely punctured but without rugosities; front narrow, slightly oblong, with faint median line and a few long hairs; elytra sparsely clothed with erect yellow hairs from base to apex, striae distinct, with punctures moderately coarse, closely placed, becoming finer on declivity, interspaces broad, with sparsely placed fine punctures, declivity oblique, convex, shining, striae distinct but not impressed, interspace 1 flat. Honolulu, in imported peach trees, January 17, 1905; D. L. Van Dine, collector (No. 17). Type, Cat. No. 7614, U. S. National Museum.

NOTE.—No distinctive sexual characters have been observed in the four specimens in this collection.

Genus COCCOTRYPES Eichhoff.

Antennal funicle 5-jointed, joint 5 much broader; club with one or two sutures on anterior face and with or without one or two sutures on posterior face; anterior margin of pronotum with small apical teeth; eyes small, elliptical, emarginate. The males, as represented by the type of the genus, are much smaller and rare, as in *Xyleborus*.

- I. Antennal club suboblong, without sutures on posterior face, sutures on the anterior face distinctly recurved.
 - 1. Pronotum with smooth punctured dorsal line.
 - Cuba..... *robustus* Eichh.
 - B. Pronotum without smooth dorsal line or space.
 - a1. Elytral interspaces faintly to distinctly rugose toward middle and base.
 - Isle of Pines, Cuba, in fruit of *Thrinax parviflora*..... *thrinacis*, page 46.
 - Havana, Cuba..... *bakeri*, page 46.
 - Madagascar..... *pygmaeus* Eichh.
 - a2. Elytral interspaces smooth toward middle and base, striae with distinct rows of fine hairs.
 - Cuba, in *Anona squamosa*..... *anona*, page 46.
 - Montserrat, W. I..... *hubbardi*, page 46.

II. Antennal club broad, with sutures on posterior face.

C. Antennal club with one suture on posterior face.

a3. Club with one suture on anterior face.

Siam, India..... *integer* Eichh.

a4. Club with one distinct and one obscure suture on anterior face.

Para, Brazil, in *Rollinia octopetala* fruit..... *rolliniae*, page 47.

D. Antennal club with two sutures on posterior face.

a5. Antennal club with sides and apex equally rounded.

Mount Coffee, Liberia..... *liberiensis*, page 47.

a6. Antennal club with sides and apex unequally rounded.

b1. Elytra not distinctly rugose toward base.

Botanic Garden, Washington, D. C., in *Bassia latifolia*.*bassiaeavorus*, page 47.

b2. Elytra densely rugose toward base.

Europe..... *dactyliperda* Fab. (Pl. II, fig. 31.)**Coccotrypes thrinacis**, new species.

Length, female type, 1.85 mm.; body short, suboval, dark reddish brown, nearly black; pronotum with anterior margin faintly serrate; front convex, sulcate; elytra shining, with stria punctures small, becoming coarser on declivity, interspaces with row of very fine rugosities, declivity subopaque, convex, with striæ faintly impressed and punctures coarse, interspaces faintly rugose. Isle of Pines, Cuba, in *Thrinax parviflora*; C. F. Baker, collector. Type, Cat. No. 7617, U. S. National Museum.

NOTE.—This species is closely related to *pygmaeus*, from which it differs in its darker color, finer stria punctures, and less distinctly rugose interspaces.

Coccotrypes bakeri, new species.

Length, female type, 1.95 mm.; body short, suboval, dark brown; pronotum with anterior margin faintly serrate; front broad, flattened and closely sulcate; elytra with sides faintly narrowed from middle toward apex, interspaces distinctly rugose from middle to base, declivity with striæ not impressed, but punctures coarse, shallow, interspaces transversely rugose. Havana, Cuba; C. F. Baker, collector. Type, Cat. No. 7619, U. S. National Museum.

NOTE: This species differs from *C. pygmaeus* in its slightly larger size, darker color, and more distinct interspacial rugosities, and the less impressed striæ on declivity.

Coccotrypes anonae, new species.

Length, female type, 1.975 mm.; body short, suboval, reddish; pronotum with anterior margin faintly serrate; front convex and rugose, not sulcate; elytra with sides faintly narrowed behind the middle, stria punctures in distinct rows, interspace with a faint row of punctures, declivity with striæ coarse, faintly impressed. Cuba, in *Anona squamosa*, October 28, 1911. Type, Cat. No. 7624, U. S. National Museum.

Coccotrypes hubbardi, new species.

Length, female type, 1.95 mm.; body short, suboval, reddish brown; anterior margin of pronotum serrate; front broad, flat, sulcate; elytra with sides faintly narrowed from base toward apex, striæ in moderately distinct rows, each with a distinct row of fine, reclining hairs, interspaces flat, faintly sparsely punctured, declivity with striæ scarcely impressed, punctures coarse, shallow, interspaces flat, faintly rugose. Montserrat, West Indies, March 1; H. G. Hubbard, collector (No. 135). Type, Cat. No. 7620, U. S. National Museum.

Coccotrypes rolliniae, new species.

Length, female type, 1.8 mm.; body short, elliptical, dark reddish brown; anterior margin of pronotum serrate; front subconvex, sulcate; elytra shining, stria punctures fine, in moderately distinct rows, interspaces with fine rugosities from middle to base, declivity with striae scarcely impressed, punctures coarse, shallow, interspaces flat, with row of fine granules. Para, Brazil, in seeds of *Rollinia octopetala*; C. F. Baker, collector; Hopk. U. S. No. 6766. Type, Cat. No. 7616, U. S. National Museum.

NOTE: This species differs from *C. integer* in darker color, stria punctures less distinct, interspaces rugose, with pronotal rugosities more densely placed.

Coccotrypes liberiensis, new species.

Length, female type, 1.8 mm.; body short, suboval, uniformly dark reddish brown; pronotum shining, with rugosities small, irregular, and moderately sparse, anterior margin with rather coarse serrations; front broad, subconvex, sulcate, with fine median line; elytra shining, stria punctures fine, in rather distinct rows, interspaces flat, smooth, with faint row of punctures, declivity with striae faintly impressed, punctures moderately coarse, interspaces shining, moderately smooth. Mount Coffee, Liberia, March, 1897; O. F. Cook, collector. Type, Cat. No. 7615, U. S. National Museum.

Coccotrypes bassiaevorus, new species.

Length, female type, 2.2 mm.; body short, elliptical, reddish; anterior margin of pronotum serrate; front subconvex, closely sulcate and with sparsely placed, erect hairs; elytra shining, striae in distinct rows, interspaces flat, faintly rugose toward base and with rather regular row of fine punctures to declivity which is evenly convex, the striae not impressed, striae and interspaces subequally punctured in rows, striae with distinct row of short reclining hairs from base to apex. Botanic Garden, D. C., in seed pods of *Bassia latifolia*, July 31, 1907; J. G. Sanders, collector; Hopk. U. S. No. 6632. Type, Cat. No. 7618, U. S. National Museum.

Genus CARPOSINUS, new genus.

Antennal funicle 4-jointed, joint 4 broader; club broad, oval, with one bisinuate suture on anterior and one broadly procurved subapical one on posterior face; eyes large, elliptical, with coarse facets and acutely emarginate. Type of genus, *Carposinus pini*, new species.

Carposinus pini, new species.

(Pl. II, fig. 32.)

Length, female type, 2.2 mm.; body oblong, elliptical, reddish brown; sides of pronotum straight, anterior dorsal and lateral areas finely and evenly rugose, rugosities extending to lateral margin, posterior dorsal and lateral areas shining and coarsely punctured, punctures coarser toward base; front broad, flat, densely clothed with short, fine, velvety yellow pubescence; elytra with sides straight to beyond vertex, shining, stria punctures very coarse and deep, interspaces very narrow and with row of fine punctures, declivity steep, interspace 1 strongly elevated, 2 impressed, 3 and 4 with a few small granules, stria punctures coarse. Baguio, P. I., in *Pinus insularis*, April 18, 1911; C. V. Piper, collector. Type, Cat. No. 7625, U. S. National Museum.

Length, male, 2.3 mm.; front convex, shining and evenly punctured.

Genus **SPERMATOPLEX**, new genus.

Antennal funicle 5-jointed, joint 5 broader; club oval, with one bisinuate suture on anterior and two procurved ones on posterior face; eyes large, broad, scarcely emarginate; anterior margin of pronotum smooth. Type of genus, *Spermatoplex rhizophorae*, new species.

Spermatoplex rhizophorae, new species.

(Pl. II, fig. 33.)

Length, female type, 2.85 mm.; body oblong, suboval, dark reddish brown; pronotum darker, sides of pronotum rounded, anterior area with rugosities fine, even, and extending to lateral margin, posterior dorsal and lateral areas shining, with rugosities finer and sparser, extending to base, not punctured; front narrow, slightly produced, sparsely punctured, and with median shining impression and sparsely placed long hairs; elytra with sides straight from base to middle, faintly rounded to apex, striæ impressed, punctures moderately coarse, interspaces convex, with row of faint, sparsely placed punctures, declivity oblique, with interspace 1 slightly elevated, stria 1 rather deeply impressed. Miami, Fla., in *Rhizophora mangle*, November, 1910; received through correspondence; Hopk. U. S. No. 8653. Type, Cat. No. 7626, U. S. National Museum.

Length, male, 1.6 mm.; body oval, clothed with very long hairs; legs exceedingly long, anterior tibia scarcely broader; head with front narrow, convex, shining, nearly smooth; pronotum shining, with rugosities absent or obscure. Described from immature specimens.

Genus **OZOPEMON** Hagedorn.

Antennal funicle 5-jointed, joint 2 as long as 3, 4, and 5 together, joint 5 much broader; club nearly as broad as long, sides broadly rounded, with one distinct posterior suture and one obscure median suture on anterior face, and one strongly procurved submedian suture on posterior face; anterior margin of pronotum with subapical rugosities; eyes short, elliptical, broadly emarginate.

Pronotum with lateral margin acute toward base.

Calapan, P. I., in *Parinarium* sp. *parinarii*.

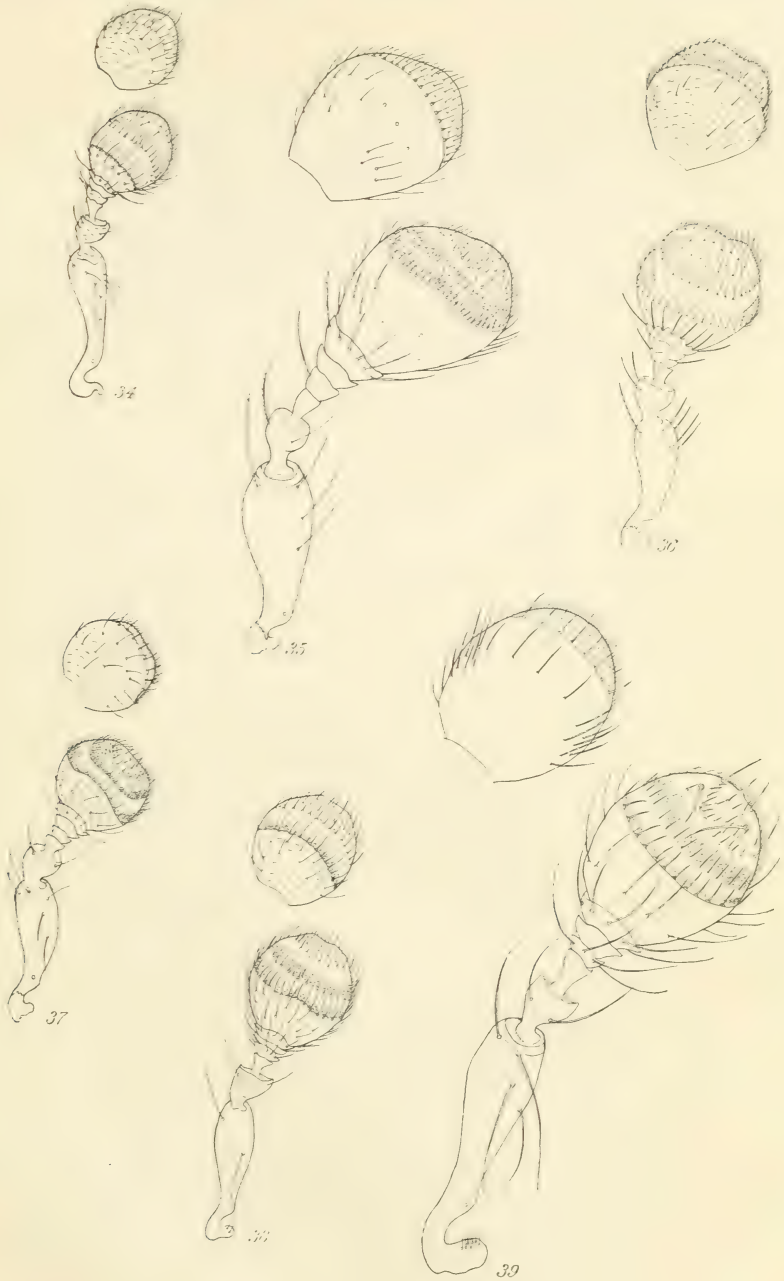
Pronotum with lateral margin obtuse toward base.

Pagbilao, P. I., in *Dipterocarpus grandiflorus*. *dipteroearpi*, page 49.

Ozopemon parinarii, new species.

(Pl. III, fig. 34.)

Length, female type, 2.35 mm.; body oblong, elliptical; elytra black, shining; pronotum with posterior and lateral areas dark, opaque, rugose, rugose space broad, reddish, rugosities extending to side margins, irregular, confused, anterior margin with a few subapical teeth; front subopaque, coarsely punctured, with distinct median line and a few long hairs; elytral striæ small, not impressed in distinct rows on dorsal area, interspaces with smaller punctures, becoming coarser and confused with striæ on dorsal area, declivity steep, subconvex, interspace 1 broadly elevated, stria 1 impressed, interspaces with rows of fine granules, stria 1 punctures small, apex obtusely rounded. Calapan, P. I., June 16, 1903, in *Parinarium* sp.; J. L. Webb, collector (No. 11a). Type, Cat. No. 7598, U. S. National Museum.



TYPICAL ANTENNAE OF GENERA OF THE CRYPHALINÆ.

FIG. 34.—*Ozopemon parinarii*. FIG. 35.—*Dryocoetes autographus*. FIG. 36.—*Dryocoetoides guatemalensis*. FIG. 37.—*Coptoborus emarginatus*. FIG. 38.—*Coptodryas confusa*. FIG. 39.—(*Xyleborus*) *Eurwallacea wallacei*. (Original.) The posterior face of the club is shown at the left above each figure of the antenna.



Ozopemon dipterocarpi, new species.

Length, female type, 4.45 mm.; oblong, elliptical, light reddish; pronotum broader than long, with sides strongly rounded from base to apex and margin obtuse toward base, anterior rugosities coarse, irregular, posterior dorsal area smooth, shining, scarcely punctured, lateral area faintly rugose, anterior margin with row of subapical rugosities; front sparsely clothed with moderately long hairs, evenly subconvex, with coarse punctures, distinct median elevated line, and posterior impression; elytral striæ faintly impressed, punctures small, in approximate rows, interspaces flat, irregularly punctured, declivity steep, flat, subopaque, stria punctures obscure, interspaces with rows of coarse granules, pubescence long and erect. Pagbilao, P. I., under bark of log of *Dipterocarpus grandiflorus*, July 29, 1903; J. L. Webb, collector (No. 75a). Type, Cat. No. 7416, U. S. National Museum.

NOTE.—Apparently closely allied to *O. laevis* Stroh. The obtuse lateral margin would indicate that either this or the preceding species represents a different genus.

Genus DRYOCOETES Eichhoff.

Antennal funicle 5-jointed; club with or without sutures on posterior face and with one or two procurved to recurved sutures on anterior face; anterior margin of pronotum smooth; eyes oblong, elliptical, emarginate. Female with front pubescent, male with front broad, subglabrous.

- Antennal club with more or less distinct sutures on the posterior face, or rarely without..... Division I.
- Antennal club without sutures on posterior face..... Division II.

DIVISION I.

- Antennal club oval, with two slightly procurved sutures on anterior face and two strongly procurved ones on posterior face; scape slender.
 - Subdivision A.
 - Europe..... *villosus* Fab.
- Antennal club with recurved sutures on anterior face and with faint to distinct procurved sutures on posterior face; scape stout..... Subdivision B.

SUBDIVISION B.

- Pronotum with sides nearly straight, the basal angles not strongly rounded, posterior area punctured or not..... Section a1.
- Pronotum with sides rounded, the basal angles strongly rounded, posterior dorsal area faintly to distinctly punctured..... Section a2.

SECTION a1.

- Pronotum with posterior area distinctly punctured; antennal club with one faint recurved suture on anterior face and two faint procurved sutures on posterior face.
 - Camp Caribou, Maine, in *Picea* sp..... *caryi*, page 50.
- Pronotum with dorsal area not punctured; antennal club with one distinct, straight suture on anterior and one faint, subapical, procurved one on posterior face.
 - Germany..... *alni* Georg.

SECTION 22.

- b1. Elytral declivity with interspace 1 strongly elevated and stria 1 deeply impressed; antennal club without distinct suture on posterior face.
 Pennsylvania..... *granicolis* Lec.
- b2. Elytral declivity with interspace 1 slightly or not at all elevated, and stria 1 slightly or not at all impressed.
- c1. Pronotum with punctures of posterior dorsal area not extending toward or to the side margin. Front of female with dense pubescence.
- d1. Pronotal punctures limited to median dorsal area.
 Grant County, W. Va., in *Betula* sp..... *betulae*.
- d2. Pronotal punctures not limited to median dorsal area.
 Virginia Beach, Va., in *Liquidambar styraciflua*... *liquidambaris*, page 51.
- c2. Pronotum with punctures of posterior dorsal area extending toward or to the lateral margin. Front of female with sparse pubescence.
- d3. Elytra scarcely broader than pronotum; declivity with striæ 1 and 2 evidently impressed and the interspaces granulate in both sexes.
 Randolph County, W. Va., in *Picea rubens*..... *americanus*, p. 51.
- d4. Elytra distinctly broader than pronotum; declivity with striæ 1 and 2 not evidently impressed; interspaces granulate in the female, rarely so in the male.
- e1. Length not exceeding 4 mm.; color reddish brown.
 Europe, in *Picea* sp..... *autographus* Ratz. (Pl. III, fig. 35.)
- e2. Length commonly exceeding 4 mm.; color dark reddish brown to black.
 Alaska..... *septentrionis* Mann.

DIVISION II.

- Length not exceeding 2.8 mm.; range 2.3–2.75 mm.
 Cranesville, W. Va., in *Picea* sp..... *piceae*, page 51.
- Length commonly exceeding 2.8 mm.; range, 2.45–3.25 mm.
 Western North America..... *affaber* Mann.
- Length exceeding 3.2 mm.; range, 3.25–4 mm.
 Lake McDonald, Mont., in *Abies* sp..... *abietis*, page 52.

Dryocoetes caryi, new species.

Length, male type, 2.15 mm.; body oblong, elliptical, ferruginous; pronotal rugosities fine, densely placed, and changing to rugose punctures to base; front flat, shining, distinctly and evenly punctured, with a few long hairs toward the sides, and with faint median line; declivity steep, subconvex, interspace 1 elevated, 2 and 3 flat, striæ with coarse punctures. Camp Caribou, Maine, in *Picea* sp., May 25, 1900; Austin Cary, collector; Hopk. U. S. No. 332c. Type, Cat. No. 7629, U. S. National Museum.

Female.—Front flattened, slightly more pubescent than in the male; declivity more opaque and interspace 1 not so strongly elevated.

Dryocoetes betulae, new species.

Dryocoetes eichhoffi Hopkins, Yearbook U. S. Dept. Agr. for 1903, p. 320, 1904.

Length, female type, 3.9 mm.; body oblong, elliptical; elytra dark reddish brown; pronotum darker, with rugosities fine and regular to base, changing to rather coarse punctures, dorsal punctures rugose, median line obscure except toward base, posterior dorsal area nearly glabrous, anterior area and sides sparsely pubescent; front broad, flat, densely clothed with long yellow pubescence, longer toward the margins; elytra with interspaces fine and in distinct rows, striæ not impressed, punctures coarse,

declivity steep, shining, flat, interspace 1 broad, slightly elevated, 2 broad, flat, slightly impressed, 3 narrow, faintly elevated, all with a row of granules, striae punctures coarse, faintly impressed, pubescence sparse and longer on declivity. Grant County, Va., in *Betula* sp., July 9, 1891; author, collector; Hopk. W. Va. No. 4004. Type, Cat. No. 7630, U. S. National Museum.

Male.—Declivity not distinctly different from that of female except that it is more shining and the granules are less evident; front broad, convex, faintly rugosely punctured, slightly impressed and shining, with faint median impression and a few long hairs; pronotum broader. The length varies from 2.4 mm. to 4.5 mm.; otherwise the characters are fairly constant.

***Dryocoetes liquidambaris*, new species.**

Length, female type, 3.85 mm.; body oblong, elliptical, dark reddish; pronotum with moderately long pubescence on anterior dorsal area and lateral margin, pronotal rugosities fine and extending to base on lateral margin, posterior dorsal area distinctly punctured, becoming rugose toward the basal angle; front broad, flat, with moderately dense, golden yellow pubescence; elytra with punctures of interspaces in irregular rows, impressed, declivity shining, steep, flattened, interspace 1 broad, slightly elevated, 2 broad, flat, 3 narrow, each with a row of rather coarse granules, pubescence sparse, not very long even on declivity. Virginia Beach, Va., in *Liquidambar styraciflua*, November 26, 1907; author, collector; Hopk. U. S. No. 6962b. Type, Cat. No. 7631, U. S. National Museum.

Male.—Declivity more shining and almost without granules; front broad, subconvex, anterior half flat, with faint carina, posterior and lateral margins with a few long hairs. The length ranges from 3.45 to 4.2 mm.

***Dryocoetes americanus*, new species.**

Length, female type, 3.65 mm.; body oblong, elliptical, reddish brown; pronotum with fine regular rugosities extending to the basal angles, median and posterior dorsal areas with coarse punctures extending toward the basal angle, dorsal line distinct; front convex, subgranulate, with a few long hairs and with short anterior median elevated line; elytral striae faintly impressed, punctures coarse, interspaces narrow, with moderately coarse, irregular punctures, declivity subconvex, interspace 1 faintly elevated, 2 and 3 equal in width, not impressed or elevated, each with a row of fine granules, pubescence sparse and moderately long, stria 1 faintly impressed. Cheat Bridge, Randolph County, W. Va., in *Picea rubens*, September 1, 1890; author, collector; Hopk. W. Va. No. 86. Type, Cat. No. 7632, U. S. National Museum.

Male.—Front very broad, convex, anterior area flattened, shining, with a few hairs; declivity more shining, smoother, striae less distinctly impressed than in female, but each interspace with row of faint granules.

NOTE: This is the eastern North American species which heretofore has been confused with *D. autographus* Ratz., from which it differs in a number of details. It varies in length from 2.95 to 4.1 mm., and there is considerable variation in the sculpture. Specimens from the Rocky Mountain region show some minor differences that are hardly distinctive enough to justify the designation of a different species; however, in this genus, in which all the allied species are separated by slight differences, it is probable that there are more species than are here recognized.

***Dryocoetes piceae*, new species.**

Length, female type, 2.5 mm.; body oblong, elliptical, reddish brown; pronotum and elytra clothed with long, erect hairs, becoming longer toward sides and declivity; front densely clothed with long yellow hairs; pronotum finely granulate throughout, excepting a faint median line; elytral striae not impressed, punctures in approximate

rows, interspaces equally punctured, causing the appearance of confused punctures, declivity steep, somewhat flattened, interspace 1 faintly elevated, 2 flat, faintly impressed, each with faint row of granules, striæ 1 and 2 distinctly punctured. Cranesville, W. Va., in *Picea* sp., May 10, 1897; author, collector; Hopk. W. Va. No. 7272b. Type, Cat. No. 7627, U. S. National Museum.

Male.—Front convex, with posterior median shining space and with a few long hairs toward the sides; declivity slightly more impressed, with interspacial granules coarser. A large series of specimens show considerable variation in size and character of elytral punctures. The range in length is from 2.3 to 2.75 mm. The distribution is from North Carolina to Canada and westward to Michigan.

NOTE.—This species is closely allied to *D. affaber*, distinguished only by its smaller size and distribution. In *D. affaber* there is a greater range of variation, both in size and sculptural characters. The western distribution, from New Mexico to Alaska, together with the variations indicate two or three species, but the lack of constant distinctive characters seems to warrant including them under one name. *D. affaber* ranges in length from 2.45 to 3.25 mm. The average exceeds 2.75 mm.

Dryocoetes abietis, new species.

Length, female type, 3.65 mm.; body oblong, elliptical, dark reddish brown, clothed with long, erect, reddish hairs, short and sparse toward base of elytra and posterior dorsal area of pronotum; pronotal rugosities moderately coarse, irregular, becoming finer to the base; front densely clothed with fine, velvety, reddish pubescence, longer and erect on margins; elytral striæ with fine shallow punctures, small and in distinct rows, interspacial punctures somewhat finer, irregular and in approximate rows, declivity subconvex, interspace 1 elevated, 2 faintly impressed, and 3 faintly elevated, all with rows of granules. Lake McDonald, Mont., in *Abies* sp., November 9, 1910; Josef Brunner, collector; Hopk. U. S. No. 8558. Type, Cat. No. 7628, U. S. National Museum.

Male.—Front broad, flat, faintly rugose, with median shining space, the margins with rather long, sparsely placed hairs; declivity with interspace 1 more distinctly elevated, and 2 more distinctly impressed; interspacial granules coarser, pubescence longer. The species ranges in length from 3.25 to 4 mm.

Genus *DRYOCOETOIDES*, new genus.

Antennal funicle 5-jointed, joint 5 broad; club with one subapical suture on posterior face and two strongly recurved sutures on anterior face; anterior margin of pronotum with apical teeth; eyes moderately large, elliptical, deeply emarginate. Type of genus, *Dryocoetoides guatemalensis*, new species.

Elytral punctures confused.

Livingston, Guatemala *guatemalensis*.

Elytral punctures in rows.

Port of Spain, Trinidad *caracicoli*, page 53.

Dryocoetoides guatemalensis, new species.

(Pl. III, fig. 36.)

Length, female type, 2.6 mm.; body stout, uniform dark reddish brown; pronotum declivous, with sides parallel, posterior angles acute, apical margin faintly produced and armed with four small teeth, rugosities fine, confused, becoming finer posteriorly and laterally, posterior dorsal area shining, finely punctured, lateral area opaque, finely punctured; front broad, subconvex, with faint median impression, shallow

denser punctures toward anterior margin, and sparsely clothed with fine erect hairs; elytra with fine procumbent pubescence not in rows, with sides straight, striæ and interspaces very fine, completely confused, becoming obsolete on declivity, which is opaque, oblique, slightly convex, with striæ evident only toward apex, entire surface finely granulated, apex subacuminate. Livingston, Guatemala, May 9; Barber and Schwarz, collectors. Type, Cat. No. 7633, U. S. National Museum.

NOTE.—The general form suggests that of *Coccotrypes*. It evidently comes between *Dryocoetes* and *Xyleborus*, both of which are distinguished from *Coccotrypes* by pronotal and elytral structures.

Dryocoetoides caracicolai, new species.

Length, female type, 2.9 mm.; body elliptical, moderately stout, light reddish brown, the elytral declivity darker; pronotum declivous, armed, apical margin slightly produced, posterior dorsal area shining, very finely punctured, lateral area alutaceous, pubescence short, fine, erect; front flat, subopaque, sparsely clothed with short erect hairs, finely rugose toward anterior margin; elytra with sides straight to middle, basal half shining, with striæ and interspaces faintly punctured in approximate rows, posterior half including declivity densely opaque, stria punctures becoming coarser and in more distinct rows on declivity, declivity oblique, interspaces pubescent and with row of granules, interspace 1 faintly elevated, 2 impressed in middle, apex subacuminate. Port of Spain, Trinidad; H. Caracicola, collector. Type, No. 7634, U. S. National Museum.

NOTE.—No sexual differences have been observed. There is little variation in size and character of the four specimens examined.

Genus *COPTOBORUS*, new genus.

Antennal funicle 5-jointed, joint 1 large, broad, and joint 5 much broader than 2; club short, broader than long, sides subequally rounded, anterior face with two sinuate sutures, posterior face with one broadly procurved subapical suture; anterior margin of pronotum faintly rugose; eyes large, elliptical, emarginate. Type of genus, *Coptoborus emarginatus*, new species.

I. Antennal club broader than long; elytra strongly narrowed posteriorly and declivity strongly oblique.

Livingston, Guatemala..... *emarginatus*.

II. Antennal club longer than broad; elytra not strongly narrowed posteriorly and declivity not strongly oblique.

Mount Salak, Java..... *palmeri*, page 54.

Pagbilao, P. I., in *Terminalia edulis*..... *terminaliae*, page 54.

Coptoborus emarginatus, new species.

(Pl. III, fig. 37.)

Length, female type, 2.7 mm.; body elongate, reddish brown; pronotum longer than broad, sides parallel, apex obtusely rounded, the rugosities fine, confused, posterior dorsal area shining, faintly punctured, lateral area subopaque and more distinctly punctured; front broad, flat, opaque, rugosely punctured, with a faint median elevation; elytra with dorsal area shining, glabrous, striæ faintly punctured, in approximate rows, interspaces flat, smooth, with sparsely placed, very minute punctures, sides with a few long hairs and narrowed from base to apex which is deeply emarginate, declivity oblique, broadly impressed, with the third interspace acutely elevated and armed with three or four teeth and small granules. Livingston, Guatemala, May 7; H. S. Barber, collector. Type, Cat. No. 7636, U. S. National Museum.

Coptoborus palmeri, new species.

Length, female type, 3.95 mm.; oblong-elliptical, black, shining; pronotum longer than broad, sides parallel, lateral margin subacute toward base, rugose area opaque, with rugosities fine, extending to side margins, posterior dorsal and lateral areas shining, finely punctured; front subelongate, broad, subopaque, punctured, and with median shining space, faintly impressed across the middle, with a few long, erect hairs; elytra with sides faintly narrowed from middle toward apex, striæ not impressed, punctures moderately coarse, in distinct rows, interspaces irregularly punctured, declivity oblique, broadly impressed, lateral margins elevated and armed with two coarse teeth and several small acute granules, apex deeply and broadly emarginate; sides of abdominal sternites narrowed from base to near apex. Mount Salak, Java, May 3, 1909; Bryant and Palmer collection. Type, Cat. No. 7650, U. S. National Museum.

Coptoborus terminaliae, new species.

Length, female type, 2.80 mm.; oblong-elliptical, elytra black; pronotum dark reddish, longer than broad, with sides parallel, lateral margin subacute toward base; declivity with base faintly punctured; abdominal sternites not strongly narrowed from base toward apex. In other respects this species agrees very closely with *Coptoborus palmeri*. Pagbilao, P. I., in *Terminalia edulis*, August 4, 1903; J. L. Webb, collector (No. 92d). Type, Cat. No. 7423, U. S. National Museum.

Genus COPTODRYAS, new genus.

Antennal funicle 5-jointed, joint 5 broad but not stout; club with two procurved sutures on posterior and two distinct, transverse, bisinuate sutures on anterior face; eyes short, broad, faintly emarginate. Type of genus, *Coptodryas confusa*, new species.

Coptodryas confusa, new species.

(Pl. III, fig. 38.)

Length, female type, 2.15 mm.; body short, stout, suboval, reddish, base of elytra lighter; pronotum broader than long, sides rounded from base to apex, rugosities coarse on anterior area, becoming finer toward sides and to the median obtuse elevation, posterior dorsal area shining, faintly punctured, lateral areas subopaque, with sparsely placed, fine rugosities, pubescence long toward the anterior and lateral margins, short and obscure on remaining area; front moderately narrow, convex, subopaque, sparsely clothed with erect hairs; elytra with sides rounded from middle to apex, punctures fine, closely placed and confused, declivity subconvex, oblique toward base which is obtusely rounded, striæ and interspaces obsolete on declivity, but the latter faintly indicated by rows of minute granules, interspace 2 ending in a coarser, subapical, acute granule. Pagbilao, P. I., in *Dipterocarpus grandiflorus*, July 29, 1903; J. L. Webb, collector (No. 76a₃). Type, Cat. No. 7635, U. S. National Museum.

Genus EUWALLACEA, new genus.

Antennal funicle 5-jointed, joint 5 very broad and 2 much longer than 3 and 4 together; eyes elliptical, distinctly emarginate. Type of genus, *Xyleborus wallacei* Blandford.

I. Antennal club longer than broad, with two procurved sutures on posterior face.

Japan (*Xyleborus*) *validus* Eichh.

II. Antennal club as broad as long or broader, with one procurved suture on posterior face.

A. Elytral declivity shining.

Antennal club with one strongly recurved, distinct, and one indistinct suture on anterior face and one procurved apical suture on posterior face.

New Guinea..... (*Xyleborus wallacei* Bland.

B. Elytral declivity opaque.

Antennal club with two nearly straight bisinuate sutures on anterior face and one broadly curved suture toward middle on posterior face.

Pagbilao, P. I., in *Streblus* sp..... *streblicola*.

Euwallacea streblicola, new species.

Length, female type, 4.15 mm.; oblong-elliptical, dark red-brown; pronotum darker, subquadrate, anterior margin truncate, faintly rugose, rugosities extending to sides, becoming finer to the middle, posterior dorsal area shining, with a few moderately coarse punctures, lateral area shining, subalutaceous, sparsely irregularly punctured; front broad, subopaque, rather coarsely punctured, with rather broad median line; elytra slightly narrowed toward base, with lateral area and basal third shining, remaining area densely opaque, striæ with moderately coarse punctures in distinct rows impressed on lateral area and declivity, interspaces with row of punctures on shining area changing to row of granules on opaque area, declivity subconvex, densely opaque, interspaces with row of granules, apex broadly rounded, posterior lateral area acute and sparsely serrate. Pagbilao, Tayabas, P. I., in log of *Streblus* sp., July 29, 1903; J. L. Webb collector (No. 73b). Type. Cat. No. 7651, U. S. National Museum.

Euwallacea wallacei Blandford.

(Pl. III, fig. 39.)

Length, female type, 4.7 mm.; body oblong-elliptical, moderately stout, dark reddish-brown; pronotum slightly broader than long, with sides nearly parallel, apex obtusely rounded, rugosities coarse on declivous anterior, and becoming finer toward the dorsal area, and extending into the anterior median lateral area, posterior dorsal area shining, faintly punctured, lateral area shining, with faint to distinct rugosities and punctures toward the base; front broad, subopaque, with coarse and fine impressed punctures, with broad median elevated line; elytra shining, striæ faintly impressed, with closely placed punctures, interspaces flat, irregularly punctured, interspaces 1 and 2 with rows of acute granules from base to apex, others with granules from middle to vertex, declivity oblique, flattened, with interspaces 1, 2, and 3 armed with rows of granules, interspace 2 faintly impressed, striæ 1, 2, and 3 distinctly punctured, the side margins becoming subacute toward apex, which is not obtusely rounded. Abdominal sternite with sides narrowed from base to near apex. Java.

NOTE.—Redescribed from specimens received from Blandford.

Genus AMBROSIODMUS, new genus.

Antennal funicle 5-jointed, joint 2 as long as 3 and 4 together, 5 much broader; club nearly as broad as long, with sutures on anterior and posterior faces; eyes short, elliptical, emarginate. Type of genus, *Xyleborus tachygraphus* Zimmermann.

I. Antennal club with two sutures on posterior face.

Elytral declivity unarmed.

Roslyn, Va., in *Lindera* sp..... *linderae*, page 56.

Elytral declivity armed.

Guatemala..... *guatemalensis*, page 56.

II. Antennal club with one suture on posterior face; elytral declivity armed.

Elytra with stria punctures coarse.

Keene, Fla. *lecontei*.

Elytra with stria punctures fine.

North Carolina (*Xyleborus tachygraphus* Zimm. (Pl. IV, fig. 40.)**Ambrosiodmus linderae**, new species.

Length, female type, 2.4 mm.; body elliptical, light reddish brown; pronotum slightly broader than long, sides faintly rounded, anterior margin obtusely rounded, unarmed, rugosities coarser on the anterior area, becoming finer and sparser to the base and basal angles, posterior dorsal and lateral areas shining; front flat, opaque, with faint, median, shining line; elytra and elytral declivity shining, elytral striæ not impressed, punctures fine, in distinct rows, interspaces smooth and irregularly punctured, declivity steep, subconvex, striæ slightly impressed, interspace 3 with a few minute granules, apex obtusely rounded, with slightly elevated subacute margin which also forms the lateral margins of the declivity. Rosslyn, Va., in *Lindera* sp., May 8; F. H. Chittenden, collector (No. 1335). Type, Cat. No. 7418, U. S. National Museum.

Length, male, 1.85 mm.; body short, stout, reddish brown; pronotum darker, subquadrate, one-third broader than long, flattened, opaque, alutaceous, scarcely rugose; head small, front broader than long, opaque, with faint posterior elevation; elytra globular, dorsal area broadly rounded from base to apex, declivity convex, broadly rounded from vertex to apex, which is narrowed and retuse, posterior lateral margin of declivity not elevated; body clothed with long erect hairs, longer on sides; elytral striæ in approximate rows on dorsal and lateral areas but confused on declivity, which is without granules. Washington, D. C., reared September 30, 1909; H. F. Wilson, collector. Hopk. U. S. Cat. No. 8775.

Ambrosiodmus guatemalensis, new species.

Length, female type, 2.75 mm.; subelongate, elliptical, ferruginous; pronotum somewhat lighter, subquadrate, anterior margin obtusely rounded, anterior rugosities moderately coarse, becoming finer and denser on dorsal area, posterior and lateral areas subopaque, regularly rugose; front convex, rugosely punctured, shining, with several obscure longitudinal lines and impressions; elytra with sides parallel, shining, striæ and interspaces equally punctured in approximate rows, striæ with row of very fine hairs, interspaces with longer erect ones in approximate rows, declivity convex, faintly, broadly retuse, interspace 1 faintly elevated, stria 1 impressed, interspace 3 with two small teeth on face of declivity and 4 with one or two teeth, 1 and 3 with row of granules on vertex, apex broadly rounded, apical and posterior lateral margins elevated, not serrate. Cacao, Trece Aguas, Alta Vera Paz, Guatemala, April 4; Schwarz and Barber, collectors. Type, Cat. No. 7652, U. S. National Museum.

Ambrosiodmus lecontei, new species.

Length, female type, 2.85 mm.; body elliptical, dark reddish brown; pronotum lighter, broader than long, posterior dorsal area subopaque, lateral area shining, becoming smoother and punctured toward posterior angle; front subopaque, rugosely punctured and with median shining line; elytral striæ with coarse and rather deep punctures, interspaces narrow and irregularly punctured, declivity convex, faintly impressed to middle, interspace 2 armed with two acute denticles, 3 to 6 granulate apex obtusely rounded, posterior and lateral margins faintly elevated, smooth Keene, Fla., June 27; Hubbard and Schwarz collection. Type, Cat. No. 7419, U. S. National Museum.



TYPICAL ANTENNÆ OF GENERA OF THE CRYPHALINÆ.

FIG. 40.—(*Xylborus*) *Ambrosiodinus tachygraphus*. FIG. 41.—*Theoborus theobromac*. FIG. 42.—*Terminalinus terminalis*. FIG. 43.—*Bioroxylon styphagnis*. FIG. 44.—*Ariseulborus rufosipes*. FIG. 45.—*Xylborus monographus*. FIG. 46.—(*Xylborus*) *Anisantrus dispar*. (Original.)
 The posterior face of the club is shown at the left above each figure of the antenna.



Ambrosiodmus tachygraphus Zimmermann.

The type in the Leconte collection, examined by the author, does not agree with the description, or at least the species would not be easily recognized from the description. The front of the prothorax is obtusely rounded, nearly flat, the posterior surface finely transversely rugose to base, the posterior lateral area smooth, shining and punctured; the elytral punctures are not deep or very distinct, the declivity is moderately steep, convex, and interspace 1 faintly retuse, nearly smooth, 3 armed with two or three denticles, 4 to 6 roughened with granules, striæ not impressed, punctures obscure. North Carolina.

NOTE: The specimen with the type, labeled "specimen 2, Haulover, Florida, March 10," is evidently the same as the one described above, under the name *lecontei*.

Length, male, 1.95 mm.; body short, stout, light brown; pronotum much broader than long, flattened, sides strongly rounded, apical margin faintly retuse, surface shining and very faintly rugose, except toward base which is opaque and with a median marginal obtuse elevation; head small, with sides parallel, front flattened, subopaque, with median shining space; elytra globular, broadly rounded from base to apex, stria punctures fine, and in faint rows from base to anterior area of declivity, posterior area somewhat flattened, faintly granulate. Washington, D. C., reared September 30, 1909, in *Betula* sp.; H. F. Wilson, collector; Hopk. U. S. No. 8775a.

Genus THEOBORUS, new genus.

Antennal funicle 5-jointed, joint 5 broad, 2 not longer than 3 and 4 together; club broad, with sides equally rounded, anterior and posterior faces each with two sutures; eyes small, elliptical, broadly emarginate. Type of genus, *Theoborus theobromae*, new species.

Theoborus theobromae, new species.

(Pl. IV, fig. 41.)

Length, female type, 2.1 mm.; body moderately short, elliptical, light yellowish brown; pronotum scarcely broader than long, sides parallel, anterior margin obtusely rounded, apex faintly serrate, rugosities fine, not extending to side margin but extending to middle on dorsal area, anterior and lateral areas with a few hairs, posterior area faintly punctured and with median shining line, lateral areas smooth, opaque, without punctures; front flat, alutaceous, with median shining space; elytra with sides and declivity clothed with soft yellow hairs, striæ not impressed, finely punctured in rows, interspaces flat and smooth, faintly punctured, declivity convex, oblique, opaque, with apex subacuminately rounded, posterior lateral margin obtuse. Dominica, West Indies, in *Theobroma cacao*; Mr. Barber, collector. Type, Cat. No. 7637, U. S. National Museum.

Genus TERMINALINUS, new genus.

Antennal funicle 5-jointed, joint 5 broad, 2 as long as 3, 4, and 5 together; club broader than long, anterior face with two bisinuate sutures, posterior face with one procurved suture; eyes large, coarse, elliptical, acutely emarginate. Type of genus, *Terminalinus terminaliae*, new species.

Terminalinus terminaliae, new species.

(Pl. IV, fig. 42.)

Length, female type, 3.65 mm.; body oblong-elliptical, reddish brown, elytral declivity darker; pronotum slightly longer than broad, sides parallel, anterior margin broadly rounded, apex faintly serrate, rugosities moderately coarse on anterior area, becoming finer to the middle and toward the sides, posterior dorsal area shining and distinctly punctured, posterior lateral area alutaceous, punctured; front narrow between the eyes and broader toward mandibles, flat, shining, smooth in middle and remaining surface punctured; elytra with sides and declivity clothed with long hairs, shining from base to vertex, stria punctures very fine in rows from base to vertex, interspaces broad, flat, smooth, irregularly punctured, declivity opaque, oblique, subconvex, faintly impressed each side toward apex, with interspaces 1 to 6 flat, each with regular row of granules from vertex to apex, posterior lateral margin acute and serrate, apex subacuminately rounded; abdominal sternites with sides acuminate to apex. Pagbilao, P. I., in *Terminalia edulis*, August 4, 1903; J. L. Webb, collector (No. 92b). Type, Cat. No. 7638, U. S. National Museum.

Terminalinus dipteroearpi, new species.

Length, female type, 4.55 mm.; body oblong-elliptical, yellowish brown (immature); pronotum with apex slightly produced, armed with four teeth; front with broad, smooth, shining space, with moderately long hairs; elytra shining throughout, sparsely clothed with fine hairs, very long on declivity, basal half finely and confusedly punctured, declivity broad, flat, with vertex angular and apex acuminate, interspaces 5 and 6 each with row of granules, striae with distinct row of punctures, posterior lateral margin serrate. Pagbilao, P. I., in *Dipteroearpus grandiflorus*, August 7, 1903; J. L. Webb, collector (No. 94d). Type, Cat. No. 7639, U. S. National Museum.

Genus BOROXYLON, new genus.

Antennal funicle 5-jointed, joint 5 very broad, 2 as long as 3, 4, and 5 together; club as broad as long, anterior face with one distinct and two indistinct recurved sutures, posterior face with one procurved suture; eyes short, elliptical, emarginate toward the dorsal margin. Type of genus, *Boroxyton stephegynis*, new species.

Pronotum with anterior margin slightly produced; declivity shining, longitudinally impressed, with one or two teeth on interspace 2, apex not broadly rounded and without posterior lateral margin..... Division I.

Pronotum with anterior margin not produced; elytral declivity opaque, not longitudinally impressed, apex broadly rounded and with posterior lateral margin obtusely elevated..... Division II.

Boroxyton stephegynis, new species.

(Pl. IV, fig. 43.)

Length, female type, 3.45 mm.; body elliptical, black; pronotum scarcely longer than broad, anterior margin slightly produced and armed with three or four obtuse teeth, with sides faintly rounded, rugosities coarse, acute on anterior area and extending to side margins and into the posterior dorsal area, which is subopaque and coarsely punctured, with faint elevated line, lateral area shining, not punctured; front shining, impressed each side of the broad, median, elevated line; elytra subopaque, with rows of yellow hairs longer toward sides and on declivity, striae faintly impressed and

punctures moderately coarse and shallow, interspaces faintly rugosely punctured, declivity moderately steep, interspace 1 flat, with row of fine granules, 2 with one or two small teeth, 3 and 4 with acute granules, sides not acute or serrate, apex sub-acuminate. Calapan, P. I., in *Stephegyne diversifolia*, June 18, 1903; J. L. Webb, collector (No. 24). Type, Cat. No. 7640, U. S. National Museum.

Boroxyton burgdorfi, new species.

Length, female type, 4.75 mm.; body stout, elliptical, black; pronotum with apex broadly rounded and serrate, rugosities moderately coarse, becoming finer to transversely elevated dorsal area and beyond the side margin, posterior dorsal and posterior lateral areas shining, coarsely, evenly punctured; front broad, flattened, sub-opaque, and impressed each side of broad, median, elevated line; elytra with basal half and lateral area shining, remaining area opaque, striæ rather deeply impressed, with faint, very shallow, closely placed punctures, interspaces of shining area irregularly punctured, those of opaque area including declivity with irregular minute to coarse granules, declivity oblique, transversely impressed toward the apex, interspace 1 broad and faintly elevated, apex broadly rounded, the apical and posterior lateral margins elevated but not acute or serrate. Costa Rica, Central America; Schild and Burgdorf, collectors. Type, Cat. No. 7653, U. S. National Museum.

Boroxyton webbi, new species.

Length, female type, 4.05 mm.; body oblong-elliptical, shining; pronotum with lateral area shining and rugose to near basal angle, posterior dorsal area shining, with faint punctures and rugosities which become obsolete toward base; front shining, slightly impressed each side of median line, with posterior area coarsely punctured; elytra with striæ distinctly impressed and punctures very coarse, interspaces narrow and faintly punctured, declivity slightly impressed in middle, with rather a prominent tooth on the middle of the second interspace. Calapan, P. I., flying, June 16, 1903; J. L. Webb, collector (No. 9). Type, Cat. No. 7641, U. S. National Museum.

Genus ARIXYLEBORUS, new genus.

Antennal funicle 5-jointed, joint 1 as long as 2 and 5 together, very broad, 2 as long as 3 and 5 together, 5 short and broader than 1; club as broad as long, sides broadly, unequally rounded; anterior face with one strongly recurved suture and one obscure suture; eyes short, elliptical, deeply emarginate. Type of genus, *Arixyleborus rugosipes*, new species.

Arixyleborus rugosipes, new species.

(Pl. IV, fig. 44.)

Length, female type, 1.6 mm.; body oblong-elliptical, dark brown; pronotum slightly darker and nearly as long as elytra, sides faintly narrowed toward base, anterior margin obtusely rounded and unarmed, rugosities fine, extending toward sides but to only about one-third of the dorsal area which is subopaque, faintly punctured, median and posterior lateral areas opaque, faintly punctured; front broad, subconvex, opaque; elytra smooth and shining toward base, opaque from toward base to apex, striæ deeply impressed from vertex to basal smooth area, but without evident punctures, declivity densely opaque, convex, with striæ and interspaces narrow, apex rounded, declivity clothed with fine yellow hairs, basal half of elytra and dorsal area of pronotum glabrous. Pagbilao, P. I., in *Dipterocarpus grandiflorus*, August 7, 1903; J. L. Webb, collector (No. 94e₂). Type, Cat. No. 7642, U. S. National Museum.

Genus **XYLEBORUS** Eichh.

Antennal funicle 5-jointed, joint 5 short and broad; club short, broad, anterior face obliquely truncate, with one or two recurved sutures, posterior face without sutures; pronotum longer than broad, with sides parallel or slightly narrowed toward base, apical margin broadly rounded, without serrations; eyes elliptical, emarginate.

NOTE.—This revised description is based on specimens of *Xyleborus monographus* (Fab.) (Pl. IV, fig. 45), which is the type of the genus *Xyleborus* Eichhoff. The principal characters distinguishing this more restricted genus from those of *Euvallacea*, *Ambrosiodmus*, and *Anisandrus* are the more elongate body, the thorax broader than long, anterior margin smooth, and the absence of sutures on the posterior face of the antennal club. The genus *Xyleborus*, as heretofore considered, is far too large, and the range of characters is so wide that it is practically impossible to treat it in a synoptic table or key which would indicate natural affinities, but with this separation the treatment is simple. It is true that the genera, as here distinguished, might be considered subgenera, but the author fails to recognize the advantage or real need of the designation of the subgenus or subspecies, believing, as he does, that if a form has sufficient distinctive characters to make it worthy of a name it should represent a species or a genus, and that subspecies, especially in insects, will contribute to confusion rather than advancement, while genera can be readily separated into primary divisions and subdivisions which will serve the purpose obtained by a separation into subgenera.

Only species found in America north of Mexico are included in the following table and descriptions:

- Apex of elytra obtuse, with a prominent acute granule each side..... Division I.
 Apex of elytra broadly to subacuminately rounded, without prominent granule
 or tooth each side of the apex..... Division II.

DIVISION I.

- Declivity opaque to subopaque..... Subdivision A.
 Declivity shining..... Subdivision B.

SUBDIVISION A.

- a1. Declivity with interspace 1 unarmed, interspace 3 armed with acute granules
 toward apex.
 Baxterville, Miss., in *Quercus* sp..... *quercus*, page 63.
 a2. Declivity with interspaces 1 and 3 armed with row of granules.
 b1. Elytral interspaces faintly rugose and subopaque, declivity with inter-
 space 2 not strongly impressed and interspace 1 not strongly
 elevated, punctures of striæ 1 and 2 obscure..... *saxseni* Ratz.
 b2. Elytral interspaces smooth and shining.
 Declivity with interspace 2 scarcely impressed, and interspace 1 scarcely
 elevated, striæ 1 and 2 with punctures obscure.
 Waynesboro, Miss., in *Hicoria pecan*..... *pecanis*, page 63.
 Declivity with interspace 2 strongly impressed and interspace 1 strongly
 elevated, striæ 1 and 2 with punctures distinct.
 Enterprise, Fla..... *floridensis*, page 63.

SUBDIVISION B.

- a1.* Declivity with interspaces 1 and 3 not elevated or armed.
 Guadeloupe *buscki*, page 63.
- a2.* Declivity with interspace 3 elevated and armed with granules.
b1. Interspace 1 not elevated or armed.
 Brazil..... <*gracilis* Eichh.>
- b2.* Interspace 1 elevated and armed with granules.
 Punctures of elytral striæ obscure, interspaces faintly rugose.
 Mount Coffee, Liberia..... *sharpae*, page 63.
 Punctures of elytral striæ distinct, interspaces smooth and shining.
 Walker, Cal., in *Arbutus menziesii*..... *arbuti*, page 64.

DIVISION II.

- Elytral declivity interspace 1 armed with granules..... Subdivision C.
 Elytral declivity interspace 1 unarmed..... Subdivision D.

SUBDIVISION C.

- Elytral declivity opaque or subopaque..... Section a3.
 Elytral declivity shining..... Section a4.

SECTION a3.

- Declivity opaque, with rows of shining discs in place of strial punctures.
 Subsection b3.
 Declivity subopaque, with obscure rows of shallow punctures..... Subsection b4.

SUBSECTION b3.

- Pronotum flat, longitudinally impressed.
 Pennsylvania..... *planicollis* Zimm.
 Pronotum convex.
 Cuba..... *inermis* Eichh., page 64.

SUBSECTION b4.

- Pronotal rugosities not extending toward posterior angle; elytral punctures distinct, declivity with interspace 1 slightly elevated on lateral area.
 St. Vincent, West Indies..... *sacchari*, page 64.
 Pronotal rugosities extending toward posterior angle; elytral punctures not distinct on lateral area, declivity with interspace 1 nearly flat.
 Cuba..... *affinis* Eichh., page 64.

SECTION a4.

- Elytral declivity oblique, flattened to subconvex, sublateral margin acute.
 Subsection b5.
 Elytral declivity convex, sublateral margin obtuse..... Subsection b6.

SUBSECTION b5.

- c1.* Elytral strial punctures coarse.
 Grenada..... *grenadensis*, page 65.
- c2.* Elytral strial punctures fine.
d1. Declivity flat.
 Capron, Fla..... *rileyi*, page 65.

d2. Declivity subconvex.

Elytra glabrous toward base, striæ indistinct.

Biscayne Bay, Fla. *hubbardi*, page 65.

Elytra sparsely pubescent toward base, striæ distinct.

Key West, Fla. *schwarzi*, page 65.

SUBSECTION b6.

c3. Elytral striæ scarcely impressed, punctures fine.

Washington, D. C. *howardi*, page 65.

c4. Elytral striæ impressed, punctures moderately coarse.

d3. Pronotum with subelongate dorsal elevation, posterior dorsal area faintly punctured.

Hyslop, Long Island, in *Pinus* sp. *fitchi*, page 66.

d4. Pronotum with round dorsal elevation, posterior dorsal area distinctly punctured.

Elytral striæ not impressed on lateral area. *xylographus* Say.

Elytral striæ impressed on lateral area.

Black Hills, S. Dak., in *Pinus scopulorum*. *scopulorum*, page 66.

SUBDIVISION D.

Elytral declivity shining, apex not obtusely rounded. Section a5.

Elytral declivity subopaque, apex obtusely rounded. Section a6.

SECTION a5.

b7. Declivity subconvex, with two coarser denticles on the third interspace.

New Orleans, La. *soltavi*, page 66.

b8. Declivity retuse, with one to three coarser denticles on the third interspace.

c5. Pronotum convex.

d5. All of the elytral interspaces punctured.

Declivity with interspace 1 distinctly elevated and interspace 2 impressed.

Massachusetts. *impressus* Eichh.

Declivity with interspaces 1 and 2 flat, elytral striæ and interspatial punctures subequal, subconfused.

Nichols, S. C., in *Nyssa* sp. *nyssae*, page 66.

Declivity with interspace 1 slightly elevated, 2 flat, punctures of elytral striæ coarse, impressed.

Columbia, N. C. *fuscatus* Eichh., page 67.

Interspatial punctures fine, obscure.

Brazil, South America. <*bispinatus* Eichh.>

d6. All of the elytral interspaces not punctured.

Elytral interspaces flat, smooth, shining, rarely with punctures.

Chile, Venezuela. *confusus* Eichh.

c6. Pronotum flat, anterior area not rugose, but clothed with fine pubescence, posterior area shining, distinctly punctured; elytral striæ obscure, interspaces rugose, declivity with interspace 3 armed with three coarse granules.

North America. *viduus* Eichh.

SECTION a6.

Elytral declivity interspace 1 broad, flat, unarmed, the striæ with rows of shining discs in place of punctures, and with two teeth on the face located in stria 2, the margin and vertex with acute granules.

North America, in *Hicoria* sp. *celsus* Eichh.

Xyleborus quercus, new species.

Length, female type, 1.95 mm.; body oblong-elliptical, dark brown; pronotum with sides slightly narrowed toward base, anterior rugosities fine, closely placed, confused, median and posterior dorsal areas glabrous and shining, lateral area subopaque, faintly and closely punctured; front broad, convex, opaque, with faint median line; elytral striæ obscure, interspaces faintly rugose, declivity opaque, faintly broadly impressed, interspace 1 flat, unarmed, 3 not elevated, armed with two or three small granules toward the vertex and one slightly larger toward the apex, posterior lateral margin serrate. Baxterville, Miss., in *Quercus* sp.; J. L. Webb, collector; Hopk. U. S. No. 5806. Type, Cat. No. 7643, U. S. National Museum.

Xyleborus pecanis, new species.

Length, female type, 1.95 mm.; body oblong-elliptical, dark reddish brown; pronotum with sides parallel, rugosities fine, with small, shining, median elevation and posterior dorsal and lateral areas smooth, shining, and glabrous; front broad, subconvex, opaque, alutaceous, with distinct median line; elytra shining, with stria punctures fine, in distinct rows, interspaces smooth and shining, declivity opaque, subconvex, with interspaces 1 and 3 not elevated but with row of granules, and 2 flat, but not impressed and without punctures, posterior lateral margins scarcely serrate. Waynesboro, Miss., in *Hicoria pecan*; received from correspondent; Hopk. U. S. No. 8971. Type, Cat. No. 7645, U. S. National Museum.

Length, male, 1.55 mm.; body oblong-elliptical, light brown; pronotum subconvex, anterior area not impressed, with very fine rugosities; body sparsely clothed with erect hairs; front narrow, subopaque; elytra shining, faintly punctured, declivity oblique, interspaces 1 and 3 faintly elevated, 2 faintly impressed, granules very small.

Xyleborus floridensis, new species.

Length, female type, 2.3 mm.; body oblong-elliptical, yellowish brown; pronotum with sides parallel, anterior rugosities fine, with faint dorsal tubercle, median and posterior dorsal areas subopaque, lateral area alutaceous; front subconvex, alutaceous, with faint median line; elytra with striæ impressed on dorsal area, punctures coarse, interspaces smooth and shining, faintly punctured, declivity subconvex, interspaces 1 and 3 distinctly elevated, 2 impressed, with stria punctures distinct, posterior lateral margin serrate. Enterprise, Fla., May 18; Hubbard and Schwarz collection. Type, Cat. No. 7646, U. S. National Museum.

Xyleborus buscki, new species.

Length, female type, 1.95 mm.; body oblong-elliptical; elytra reddish brown, pronotum darker; pronotum with sides parallel, anterior rugosities fine, dorsal elevation transverse, median and posterior dorsal and lateral areas smooth, subopaque; front moderately broad, shining, faintly punctured, with faint transverse elevation; elytra subopaque, striæ obscure, surface faintly rugose, declivity oblique, flattened, shining, clothed with fine hairs in approximate rows, interspace 1 scarcely elevated, 2 flat, vertex and sides faintly granulate, posterior lateral margin faintly serrate. Guadeloupe, West Indies, July 30; August Busck, collector. Type, Cat. No. 7647, U. S. National Museum.

X. catulus Bland. (Biol. Centr.-Amer., p. 215) may be near this species.

Xyleborus sharpae, new species.

Length, female type, 1.4 mm.; body oblong-elliptical, light brown; pronotum slightly broader than elytra, median and posterior dorsal and lateral areas smooth, shining, rugose area short, rugosities fine; front broad, nearly flat, alutaceous, with median longitudinal line; elytra with striæ obscure, interspaces faintly rugose, decliv-

ity subconvex, interspace 1 strongly elevated, 2 flat, 3 slightly elevated, and 1, 3, 4, 5, and 6 with rows of acute granules, posterior lateral margin serrate. Mount Coffee, Liberia, 1896; Mrs. Sharp, collector. Type, Cat. No. 7648, U. S. National Museum.

Xyleborus arbuti, new species.

Length, female type, 2.4 mm.; body oblong-elliptical, reddish; pronotum with median and posterior dorsal area smooth and shining, lateral area subalutaceous; front broad, convex, opaque, with moderately coarse punctures, without median line; elytra shining, striæ 1 and 2 impressed, punctures distinct, interspaces with rows of hairs from base to declivity which is subconvex, shining, interspace 1 elevated, 2 flat, 3 elevated, posterior lateral margin faintly serrate, ending in a small subapical tooth. Walker, Cal., in *Arbutus menziesii*, August 29, 1911; F. C. Craighead, collector; Hopk. U. S. No. 9583. Type, Cat. No. 7649, U. S. National Museum.

Xyleborus inermis Eichhoff.

Length, male, 1.8 mm.; oblong-elliptical, light yellowish brown; pronotum with sides parallel, anterior area broadly impressed, with anterior margin scarcely produced with obtuse subapical tubercle, rugosities fine, extending to median broad elevation, posterior and lateral area shining, faintly punctured; front convex, subopaque, with anterior median shining space; elytra with sides parallel to vertex, basal and lateral areas shining, faintly punctured, declivity oblique, opaque, subconvex, striæ with faint shining discs, interspaces 1, 3, and 4 with a few granules, pubescence moderately long; head moderately large. Monongalia Co., W. Va., in *Castanea dentata*, July 15, 1893; author, collector; Hopk. W. Va. No. 6360a.

Xyleborus sacchari, new species.

Length, female type, 2.15 mm.; body oblong-elliptical, ferruginous; pronotum slightly broader than elytra, anterior rugosities extending to middle and to the anterior lateral margin, posterior dorsal and lateral areas smooth, shining, not evidently punctured; front moderately narrow, subopaque, with median shining line; elytra with striæ not impressed, punctures small, irregular, interspaces sparsely punctured, giving the appearance of confused punctures, declivity oblique, opaque, interspace 1 broadly elevated, 2 impressed, 3 slightly elevated, 1 and 3 with row of granules, stria punctures obscure, posterior lateral margin faintly serrate. St. Vincent, West Indies. Received from W. F. H. Blandford, with specimen labeled "*affinis*." Type, Cat. No. 7407, U. S. National Museum.

Length, male, 1.55 mm.; pronotum not broader than elytra, elongate, anterior area broadly impressed, apical margin produced and armed with a short obtuse tubercle, anterior area scarcely rugose, posterior dorsal and lateral areas smooth and shining; front narrow, shining; elytra with dorsal area rounded from base to apex, punctures confused, declivity oblique, granules very fine, declivity and anterior area of pronotum with long, erect hairs.

NOTE.—This is at once distinguished from specimens identified by Eichhoff as *X. affinis*, and received from his type series, in the smaller size and more shining front and also in the distribution.

Xyleborus affinis Eichhoff.

Length, male, 2.25 mm.; oblong-elliptical, light brown; pronotum broad, anterior area broadly impressed, apex slightly produced into an obtuse tubercle, rugosities evident on anterior area, dorsal and lateral areas smooth, shining, not punctured; elytra with lateral and dorsal areas shining, stria punctures moderately coarse, irregular, subconfused, declivity oblique, opaque, interspace 2 faintly impressed, 1 and 2 with rows of granules, pubescence short. Morgantown, W. Va., in *Quercus* sp., January 27, 1893; author, collector; Hopk. W. Va. No. 6069.

Length, female, 2.4 to 2.75 mm.

Xyleborus grenadensis, new species.

Length, female type, 2.3 mm.; body oblong-elliptical, ferruginous; pronotum with sides parallel, not broader than elytra, posterior dorsal and lateral areas smooth and shining, dorsal area very faintly punctured; front opaque, broad, irregularly punctured, with median longitudinal smooth line; elytra with stria punctures coarse, striæ 1 to 3 impressed, interspaces with sparsely placed, impressed punctures, declivity oblique, subconvex, shining, interspaces 1 and 3 slightly elevated, armed with row of granules, 2 flat, punctures of striæ 1 and 2 evident, posterior lateral margin faintly serrate. Grenada, West Indies: H. H. Smith, collector (No. 276). Received from W. F. H. Blandford, with specimen labeled "*affinis*." Type, Cat. No. 7408, U. S. National Museum.

NOTE.—This species is at once distinguished from *affinis* by the shining declivity. It is nearly allied to *X. torquatus*, received from Eichhoff, from which it differs in the less elongate form, lighter color and finer granules of the declivity, and less coarsely punctured front.

Xyleborus rileyi, new species.

Length, female type, 2.3 mm.; body oblong-elliptical, dark ferruginous; pronotum with sides faintly narrowed toward the base, posterior dorsal and lateral areas shining and rather distinctly punctured; front opaque, with faint median line; elytra moderately shining, with stria punctures very fine, obscure, interspaces flat, faintly and sparsely punctured, declivity shining, subconvex, with interspaces scarcely elevated, interspaces 1 and 3 armed with coarse granules, punctures in striæ 1 and 2 evident, posterior lateral margin smooth. Capron, Fla., April 25; H. G. Hubbard, collector. Type, Cat. No. 7409, U. S. National Museum.

Xyleborus hubbardi, new species.

Length, female type, 2.45 mm.; body oblong-elliptical, dark ferruginous; pronotum elongate, with sides parallel, slightly narrowed toward base, posterior dorsal and lateral areas shining, scarcely punctured; front subopaque, with median line; elytra shining, with stria punctures distinct on dorsal area but obscure on lateral area, interspaces smooth, shining, scarcely punctured, declivity subconvex, shining, granules of interspaces 1 and 3 moderately coarse, interspace 2 flat, with stria punctures obscure, posterior lateral margin faintly sparsely serrate. Biscayne Bay, Fla., February 7; Hubbard and Schwarz collection. Type, Cat. No. 7410, U. S. National Museum.

Xyleborus schwarzi, new species.

Length, female type, 2.8 mm.; body elongate-elliptical, ferruginous; pronotum elongate, with sides parallel, posterior dorsal and lateral areas shining, scarcely punctured; front moderately broad, subopaque, with impressed punctures and median shining spot; elytra shining, with stria punctures fine, but in distinct rows, interspaces flat, with approximate rows of punctures, declivity subconvex, shining, interspace 1 with row of moderately coarse granules, 3 with two or three granules, interspace 2 flat, stria punctures evident, posterior lateral margins not serrate. Key West, Fla., April; Hubbard and Schwarz collection (No. 459). Type, Cat. No. 7411, U. S. National Museum.

Xyleborus howardi, new species.

Length, female type, 2.35 mm.; body oblong-elliptical, dark ferruginous; pronotum with sides parallel, posterior dorsal and lateral areas shining, scarcely punctured; front flat, subopaque, with median line; elytra shining, with stria punctures moderately coarse and in distinct rows, interspaces flat, with row of fine punctures, declivity convex, moderately steep, shining, interspaces 1 and 3 not elevated but armed with

rows of granules, posterior lateral margin obtuse, not serrate. Washington, D. C.; Hubbard and Schwarz collection. Type, Cat. No. 7412, U. S. National Museum.

Length, male, 1.95 mm.; body elongate; pronotum with dorsal area broadly rounded from base to apex, which is slightly produced but without apical tubercles, anterior area slightly flattened but not impressed and with fine dorsal line extending from apical margin to beyond middle, anterior area faintly rugose, posterior dorsal and lateral areas shining and punctured; elytra slightly narrower than prothorax, with punctures subconfused, declivity convex, moderately oblique, with a few granules, surface rugose, pubescent.

***Xyleborus fitchi*, new species.**

Length, female type, 2.45 mm.; body oblong-elliptical, dark reddish brown; pronotum with sides slightly narrowed toward base, dorsal tubercles prominent, subcarinate, posterior dorsal and lateral areas smooth, shining, faintly punctured; front convex, subopaque, faintly punctured, with faint median line; elytra shining, stria punctures fine, faintly impressed, distinct, interspaces with rows of very fine, closely placed punctures, declivity convex, rather steep, with stria punctures moderately distinct, interspaces 1 to 3 flat, armed with a few granules, posterior lateral area obtuse, not serrate. Hyslop, Long Island, July 25, 1898, in *Pinus* sp., N. R. DuVall, collector. Type, Cat. No. 7413, U. S. National Museum.

NOTE.—This species and *X. howardi* are closely allied to *X. xylographus* Say, differing especially in the smaller size, the latter varying in length from 2.5 to 2.7 mm.

***Xyleborus scopulorum*, new species.**

Length, female type, 2.75 mm.; body elongate-elliptical, light ferruginous; pronotum with sides parallel, dorsal tubercle but slightly elevated, posterior dorsal and lateral areas shining, distinctly but finely punctured; front opaque, distinctly punctured, with fine median line, sparsely clothed with moderately long erect hairs; elytra with striæ slightly impressed, punctures coarse, closely placed, interspaces flat, with row of very fine punctures, declivity convex, steep, striæ with evident shallow punctures, interspaces 1 and 3 scarcely elevated, armed with row of granules, posterior lateral margin obtuse. Black Hills, S. Dak., in *Pinus scopulorum*, September 1, 1901; author, collector; Hopk. U. S. No. 433h. Type, Cat. No. 7414, U. S. National Museum.

NOTE.—This species is closely allied to *X. xylographus* Say, differing mainly in larger size, from 2.5 to 2.85 mm., lighter color, and more distinctly impressed stria sutures, especially on the lateral area.

***Xyleborus soltau*, new species.**

Length, female type, 2.4 mm.; body oblong-elliptical, ferruginous; pronotum with posterior dorsal area smooth, very shining, faintly punctured, lateral area subopaque; front broad, flat, opaque, scarcely punctured, with faint median line; elytra shining, with stria punctures very shallow, subquadrate, striæ scarcely impressed, interspaces narrow, smooth, shining, scarcely punctured, declivity moderately steep, faintly impressed, interspace 1 with a few very fine granules, 3 slightly elevated, with two moderately coarse granules, posterior lateral margin faintly sparsely serrate. New Orleans, La. Soltau collection. Type, Cat. No. 7415, U. S. National Museum.

***Xyleborus nyssae*, new species.**

Length, female type, 2.45 mm.; body oblong-elliptical, dark ferruginous; pronotum with posterior dorsal areas smooth, shining, faintly punctured, median and anterior lateral areas rugose; front moderately narrow, subconvex, opaque, sparsely punctured area with median line; elytral striæ not impressed, punctures irregular, interspaces with impressed punctures, causing the punctures to appear confused, declivity inter-

space 1 flat, 3 scarcely elevated and with stout submedian granules, posterior lateral margin not serrate. Nichols, S. C., in *Nyssa* sp., March 26, 1903; author, collector; Hopk. U. S. No. 1310. Type, Cat. No. 7417, U. S. National Museum.

***Xyleborus fuscatus* Eichhoff.**

Length, male, 2.1 mm.; oblong-elliptical, ferruginous; pronotum subquadrate, slightly broader than elytra, anterior area broadly and deeply impressed, shining, faintly rugose, anterior margin slightly produced but without distinct tubercles, and posterior lateral area shining, faintly punctured; front narrow, subopaque, with broad and deep triangular impression extending to the vertex, pubescence sparse, moderately long; elytral striæ irregularly punctured in approximate rows, declivity oblique, rugose, interspace 1 unarmed, 2 with one or two acute granules, posterior lateral margin nearly smooth. Monongalia Co., W. Va., in *Quercus alba*, March 17, 1894; author, collector; Hopk. W. Va. No. 6563a.

***Xyleborus celsus* Eichhoff.**

Length, male, 2.7 mm.; body oblong-elliptical, ferruginous; pronotum with sides subparallel, subacuminate to apex, which is obtusely produced, anterior area flattened, faintly impressed, rugosities fine, posterior and lateral areas smooth, shining; front subopaque, with median shining impression; elytra with stria punctures obscure, irregular, dorsal area rugosely punctured toward vertex, declivity steep, flat, shining, with interspace 1 broad and flat, armed with two teeth toward middle and one on vertex, interspace 3 forming the lateral margin with three or four small granules, posterior lateral margin obtuse, not serrate. Morgantown, W. Va., in *Hicoria* sp., December 1, 1895; author, collector; Hopk. W. Va. No. 6907.

Genus ANISANDRUS Ferrari.

Antennal funicle 5-jointed, joint 5 much broader than 2; club oblong-oval, posterior half of anterior face cylindrical and chitinous, anterior half obliquely truncate, posterior face chitinous throughout, without sutures; pronotum broader than long, anterior margin broadly rounded and serrate; eyes oblong-elliptical, deeply emarginate.

NOTE: This revised description is based on specimens of *Xyleborus dispar* Fab. from Europe, which is the type of the genus *Anisandrus* Ferr. The principal characters distinguishing this genus from *Xyleborus*, as represented by the type *X. monographus*, are the stout form of the body; pronotum broader than long, with the anterior margin serrate; the scape of the antenna long and slender as compared with that of *Xyleborus*, and the club longer than broad. In *zimmermanni* the scape of the antenna is short and the club moderately stout. In *Xyleborus coronatus* Eichh. the scape is also moderately short and the club differs especially in being subcompressed, with the anterior face oblique from near base and densely pubescent.

- I. Pronotum with posterior dorsal and lateral areas shining. Biscayne, Fla.
zimmermanni, page 68.
11. Pronotum with posterior dorsal and lateral areas opaque, alutaceous.
 - A. Pronotum with sides and basal angles not strongly rounded.
 - a1. Elytral declivity with lateral acute margins not armed.
Pronotum with dorsal area more distinctly punctured.
Montreal Island, Canada, in *Betula* sp. *minor* Swain.
 - Pronotum with lateral area more distinctly punctured.
Morgantown, W. Va., in *Sassafras* sp. *sayi*, page 68.

a2. Elytral declivity with lateral acute margins armed.

Canada to Virginia..... *obesus* Lec., page 69.

B. Pronotum with sides and basal angles strongly rounded.

Length, females, 2.7 to 3.25 mm.; males, 2 to 2.1 mm.; male with elytral striæ not impressed and interspaces roughened but without fine punctures.

United States..... *pyri* Peck, page 69.

Length, females, 3.25 to 3.7 mm.; males, 2.05 to 2.25 mm.; male with elytral striæ deeply impressed and interspaces with fine confused punctures.

Europe..... *dispar* (Fab.) (Pl. IV, fig. 46.).

Anisandrus zimmermanni, new species.

Length, female type, 1.5 mm.; body short, elliptical, dark brown, shining; pronotum with anterior rugosities extending to middle and lateral margin, posterior dorsal and lateral areas smooth, shining, not punctured, posterior lateral margin acute, anterior margin serrate; front convex, shining, with faint median carina and sparsely punctured; elytra with striæ not impressed, faintly and closely punctured, interspaces smooth, shining, not punctured, declivity convex, smooth, shining, striæ not impressed, punctures distinct, posterior lateral margin acute, very faintly serrate. Biscayne, Fla., May 27; Hubbard and Schwarz collection. Type, Cat. No. 7420, U. S. National Museum.

Length, male, 0.82 mm.; light brown; pronotum broad, much broader than elytra, quadrate, shining, faintly rugose on the anterior lateral areas, anterior margin with apex faintly produced; front narrow, flat, smooth, shining; elytra narrower than pronotum, with sides rounded and narrowed from base to apex, declivity oblique, convex from near base to apex, subopaque and rugosely punctured, base smooth and shining, pubescence to declivity short, sparse, erect. Another male is slightly larger. Biscayne, Fla., May 27; Hubbard and Schwarz collection.

Anisandrus sayi, new species.

Length, female type, 2.85 mm.; body short, elliptical; elytra dark brown; pronotum black, rugosities extending to middle but not to side margin, sides scarcely rounded, anterior margin broadly rounded, apex with two closely placed small teeth, posterior dorsal and lateral areas opaque, punctures obscure on dorsal area, more evident on lateral area, basal angles with margin subacute; front convex, opaque, alutaceous, with faint anterior line and sparse punctures; elytra shining, pubescent, striæ not impressed, punctures distinct, shallow, and rather closely placed, interspaces with fine irregular punctures, declivity convex, subopaque, nearly smooth, with striæ faintly impressed, punctures coarse, interspaces with a few minute granules, posterior lateral margin acute, slightly produced, but without marginal teeth or granules. Morgantown, W. Va., in *Sassafras* sp.; author, collector; Hopk. W. Va. No. 7537. Type, No. 7432, U. S. National Museum.

Length, male, 1.2 mm.; body oval, light yellowish; pronotum subconvex, much narrower than elytra, sides rounded from base to apex, anterior margin broadly rounded, acute-edged, anterior area faintly rugose, posterior smooth, shining, stria punctures fine and in approximate rows, interspaces faintly punctured, declivity oblique, subconvex, some what flattened toward middle, pubescence short. Morgantown, W. Va., in *Sassafras* sp., September 21, 1898; author, collector; Hopk. W. Va. No. 7568.

NOTE.—This is closely allied to *X. obesus* variety *minor* Swain., as represented by specimens in the collection from Kennedy, W. Va., but the differences in size and other characters are sufficient to differentiate them specifically. It does not seem that *X. minor* Swain can be considered a variety of *X. obesus* Lec., but that it should be considered a good species.

The name *X. sayi* is applied to the species because there is a specimen in the Harris collection, under his No. 1254, labeled "*Scolytus pyri* Peck (unique and det. by Say)" and referred to in Harris's MSS. notes as "*Scolytus pyri* Peck good, but not *Scolytus*, rather *Bostrichus* or ? true *Tomicus*—Worcester Dr. Funk." There is also a specimen in the Harris collection of *X. minor* Swain., labeled "*Scolytus pyri* Peck."

***Anisandrus obesus* Leconte.**

This is undoubtedly a good species. There are large series of both sexes in the collection, which have been compared with the type in LeConte's collection. LeConte's failure to mention the teeth on the lateral margin of the declivity has prevented its recognition. *X. serratus* Swain. is evidently synonymous with *X. obesus* Lec.

***Anisandrus pyri* Peck.**

After detailed study of a large series of specimens from North America and Europe it seems that we must consider *pyri* a good species. The females are scarcely to be distinguished by any constant character, but the males of *pyri* are at once distinguished, those of *dispar* being larger, the striæ more deeply impressed, and the interspaces with more or less regular rows of small punctures. The epistoma of the female mounted in balsam shows striking differences—that of *dispar* being emarginate in the middle while that of *pyri* is sinuate.